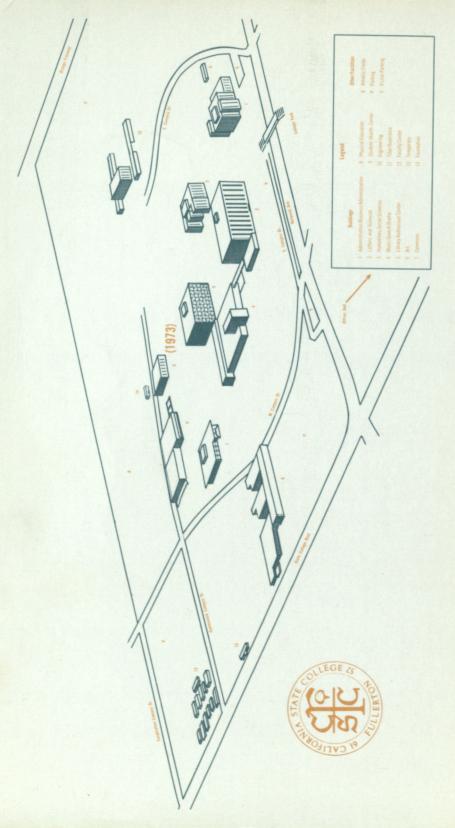


CALIFORNIA STATE COLLEGE FULLERTON CATALOG 1971-72



GENERAL CATALOG

1971-72

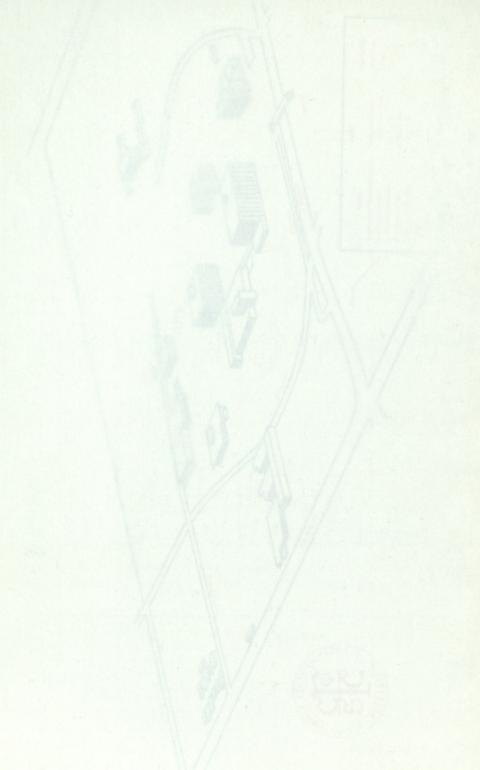


CALIFORNIA STATE COLLEGE, FULLERTON

200 North State College Boulevard, Fullerton, California (712) 200 2011 92031

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GENERAL CATALOG

1971-72



CALIFORNIA STATE COLLEGE, FULLERTON

800 North State College Boulevard, Fullerton, California (714) 870-2011 92631

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GENERAL CATALOG

1971-72



CALIFORNIA STATE COLLEGE, FULLERTON

800 North State College Boulevard, Fullerton, California (714) 870-2011 92631

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TABLE OF CONTENTS

GENERAL INFORMATION—College Calendar 8, California State Colleges 5, California State College, Fullerton 15, The College: An Overview 26, Student Services and Activities 41

GEN

ADMISSION, REGISTRATION, RECORDS AND REGULATIONS-51

REG

DEGREE REQUIREMENTS—Bachelor's Degree 73, Master's Degrees 77

DEG

ACADEMIC ADVISEMENT-85

ADV

COLLEGE CURRICULA-91

CUR

SCHOOL OF THE ARTS-99

ART

SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS-141

BUS

SCHOOL OF EDUCATION-173

ED

SCHOOL OF ENGINEERING-225

GR

ETHNIC STUDIES PROGRAMS-247

ETH

DIVISION OF INTERDISCIPLINARY AND SPECIAL STUDIES-257

900

SCHOOL OF LETTERS, ARTS AND SCIENCES—273

LAS

LIB

DIVISION OF LIBRARY SCIENCE-435

DIRECTORIES—441

DIR

TABLE OF CONTENTS

THIS CATALOG

Within this catalog may be found general academic and administrative information as well as specific descriptions of the departments, their majors and the courses offered in each. The first major part contains orienting information such as the calendar, materials on the California State Colleges, a listing of individuals and groups participating in the governance of the college, an overview of California State College, Fullerton and facts about student services and activities on the campus.

The subsequent sections of the catalog are concerned with: admission, registration, records and regulations; academic advisement; and college courses. The next sections, organized by schools and divisions, describe the departments and the programs of study and courses they offer. The final part of the catalog contains directories with information on advisory councils, auxiliary organizations, and the faculty and administration. An index can be found at the end to help the reader locate specific items he needs or wishes to know about.

Because this catalog must be prepared well ahead of the academic year it covers, changes in some programs and rules occur. The class schedule (and subsequent errata sheets) are the final authority in regard to classes offered, instructors and revisions of regulations. This publication can be bought for a small fee from the Titan Bookstore.

This year a number of revisions have been made in the contents, format and organization of the catalog. The academic and administrative departments of the college provide the materials on their own programs and activities. Two college committees, one in 1969 chaired by Professor Joseph Gilde and a currently functioning group led by Professor Martin Klein, have worked on restructuring and improving this catalog. Students and faculty from the Department of Communications have done much of the work on restyling this catalog with the help of the staff from the Audiovisual Services Department. Ronald Bayhan of the Department of Art designed the cover, and Charlie Gibbs took most of the photographs. The final organizing and editing was done by Doris Carlton and Wayne Untereiner in the Office of Academic Planning and Jill Case and Jerry Keating in the Office of Public Affairs.



GENERAL INFORMATION

COLLEGE CALENDAR FOR 1971-72

1971

JUNE

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SUMMER SESSION 1971—First Session

SUMMER SESSION	19/1—First Session
May 10, Monday- June 4, Friday	Inclusive dates for early regis- tration for summer session
June 21, Monday	First summer session begins— registration and classes
July 5, Monday	Independence Day holiday—all offices closed
July 30, Friday	First summer session ends
SUMMER SESSION	1971—Second Session
August 2, Monday	Second summer session begins—registration and classes
September 6,	
Monday	Labor Day holiday; all offices closed; no instruction
September 10,	
Friday	Second summer session ends; effective date of graduation for those completing baccalaureate requirements

FALL SEMESTER 1971

November 1, 1970

Initial period for filing applications for admission to the fall semester 1971 begins for all new students and former students not in attendance during the spring semester 1971. All applications received by November 30 will have equal consideration for inclusion in enrollment quotas. Applications will continue to be accepted after November 30 for consideration in any unfilled category within the policies of the statewide common admissions program.

September 20, Monday	Academic year begins. Advise- ment, orientation and registra- tion week begins. See class schedule for details
September 24,	
Friday	Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation, June 1972 and September 1972
September 27,	
Monday	Instruction begins

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NOVEMBER										
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MARCH S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

October 11, Monday... Columbus Day holiday...all offices closed. No instruction

October 25, Monday... Veterans Day holiday—all offices closed. No instruction November 1.

Monday Deadline for January 1972 master's degree candidates to request a graduation check

November 25–26, Thursday–Friday—Thanksgiving recess—all offices closed

December 20,
Monday......Winter recess begins

Ianuary 3, Monday....Instruction resumes

January 19, Wednesday Last day of classes

January 20-21, Thursday-Friday.... Examination study days

January 24, Monday Semester examinations begin

January 28, Friday..... Semester examinations end; semester ends. Effective date of graduation for those completing requirements

SPRING SEMESTER 1972

August 2, 1971

Initial period for filing applications to the spring semester 1972 begins for all new students and former students not in attendance during the fall semester 1971. All applications received by August 31 will have equal consideration for inclusion in enrollment quotas. Applications will continue to be accepted after August 31 for consideration in any unfilled category within the policies of the statewide common admissions program.

February 7, Monday... Semester begins. Advisement, orientation, and registration week begins

February 10,

Thursday

Last day to register without late registration fee. Application deadline for baccalaureate degree candidates for graduation January 1973

February 14, Monday Instruction begins

February 21, Monday Washington's Birthday holiday
—all offices closed. No instruction

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SEPTEMBER					
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Classes

March 1, Wednesday.	Application deadline for June 1972 and September 1972 mas- ter's degree candidates to re- quest a graduation check
March 27, Monday	Spring recess begins
April 3, Monday	Instruction resumes
April 13, Thursday	Martin Luther King, Jr., me- morial observance
May 8, Monday	Early registration for summer session begins
May 29, Monday	Memorial Day holiday—all of- fices closed. No instruction
May 31, Wednesday	Last day of classes
June 1-2,	
Thursday-Friday	Examination study days
June 5, Monday	Semester examinations begin
June 9, Friday	Semester examinations end. Semester ends. Effective date of graduation for those completing requirements
June 9, Friday	Commencement

SUMMER SESSION 1972—First Session

COMMITTER OFFICE	1772 11101 00001011
May 1, Monday- May 29, Monday	Inclusive dates for early regis-
	tration for summer session
June 19, Monday	First summer session begins— registration and classes
July 4, Tuesday	Independence Day holiday—all offices closed. No instruction
July 28, Friday	First summer session ends

SUMMER SESSION 1972—Second Session

July 31, Monday	Second summer session begins —registration and classes
September 4,	States of the States of the
Monday	Labor Day holiday; all offices closed; no instruction
September 8,	
Friday	Second summer session ends; effective date of graduation for those completing baccalaureate requirements

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Harry W. Harmon	Vice Chancellor, Physical Planning and Development
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William B. Langsdorf	Vice Chancellor, Academic Affairs

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California State College, Dominguez Hills 1000 East Victoria Street Dominguez Hills 90247 Leo F. Cain, President 213 532-4300

California State College, Fullerton 800 North State College Boulevard Fullerton 92631 L. Donald Shields, President 714 870-2011

California State College, Hayward 25800 Hillary Street Hayward 94542 Ellis E. McCune, President 415 538-8000

California State College, Long Beach 6101 East Seventh Street Long Beach 90801 Stephen Horn, President 213 433-0951

California State College, Los Angeles 5151 State College Drive Los Angeles 90032 John A. Greenlee, President 213 224-0111

California State College, San Bernardino 5500 State College Parkway San Bernardino 92407 John M. Pfau, President 714 887-6311

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California State Polytechnic College, San Luis Obispo San Luis Obispo 93401 Robert E. Kennedy, President 805 546-0111 Chico State College Chico 95926 Stanford Cazier, President 916 345-5011

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San Francisco State College 1600 Holloway Avenue San Francisco 94132 S. I. Hayakawa, President 415 469-9123

San Jose State College 125 South Seventh Street San Jose 95114 John H. Bunzel, President 408 294-6414

Sonoma State College 1801 East Cotati Avenue Rohnert Park 94928 Thomas H. McGrath, President 707 795-2011

Stanislaus State College 800 Monte Vista Avenue Turlock 95380 Carl Gatlin, President 209 634-9101

THE CALIFORNIA STATE COLLEGES

Academic year 1971–72 marks for the California State Colleges the beginning of their second decade of service to the people of California as a unified system of public higher education—the largest such system in the Western Hemisphere and one of the largest in the world. Brought together as a system under an independent Board of Trustees as a result of the Donahoe Higher Education Act in the early 1960s, the California State Colleges now number 19, covering the state from Humboldt State College in the north to San Diego State College in the south. Current enrollment exceeds 244,000 full- and part-time students, with a faculty of approximately 14,000.

Responsibility for the California State Colleges is vested in the Board of Trustees, whose members are appointed by the Governor, and the Chancellor, who is the executive officer of the system. The Trustees and the Chancellor develop system-wide policy, with implementation taking place at the campus level. The Academic Senate of the California State Colleges, made up of elected representatives of the faculty from each college, recommends academic policy to the Board of Trustees

through the Chancellor.

Each college in the system has its own unique geographic and curricular character, but all emphasize the liberal arts and sciences. Programs leading to the bachelor's and master's degrees are master-planned to anticipate and accommodate student interest and the educational and professional needs of the State of California. A limited number of joint doctoral programs are also offered. Although there is increasing recognition of the importance of research to the maintenance of quality teaching, the primary responsibility of the faculty continues to be the instructional process.

While San Jose State College, the oldest, was founded over a century ago, prior to World War II only seven State Colleges were in existence, with a total enrollment of 13,000. Since 1947, 12 new colleges have been established, and sites have been selected for additional campuses in Ventura, San Mateo and Contra Costa counties. California State College, Bakersfield, the newest, was opened to students only last year. Enrollment in the system is expected to pass 400,000 by 1980.

California State College, Fullerton

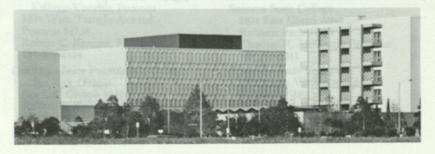
ADVISORY BOARD

The California State College, Fullerton Advisory Board consists of community leaders interested in the development and welfare of the college. The board serves the President in an advisory capacity, particularly in matters which affect college and community relations. Members are nominated by the President and appointed by the Board of Trustees for terms of four years.

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Partner, Baker and Caldwell	Newport Beach
C. Stanley Chapman	
Chapman Ranch	Fullerton
Rodney (Bud) Coulson	
Leland C. Launer	
Partner, Launer, Chaffee and Hanna	Fullerton
Charles A. Pearson	
Anaheim Truck and Transfer	
Philip S. Twombly	ment at 111,000 Single
Executive Vice President, VIM Corp.	Fullerton
Harold M. Williams	counties. California 865
Dean, School of Business, UCLA	Beverly Hills

GOVERNANCE

Governance on the campus level at California State College, Fullerton is the responsibility of the President and his administrative staff. Working closely with the President are a number of faculty and student groups which initiate, and review and recommend for approval college programs, policies and procedures. Although the President is vested with the final authority on all college activities, the traditions at Fullerton have been to encourage maximum faculty and staff participation in campus decision-making and governance. Increasingly, students are becoming involved and active, too, and some student representatives are found on most college, school, and departmental committees and policy-making bodies.



COLLEGE ADMINISTRATION

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Milton C. Blanchard
Beryl E. Kempton
Jerry J. Keating
Helen C. Carter
on;
Robert E. Sandoval
Kenneth W. Todd
Marie M. Hoffman
Russell J. Keeley
Walter J. Dennison
Miles D. McCarthy
Doris B. Carlton
J. Justin Gray
ics Jack W. Coleman
(Acting) Ida S. Coppolino
Robert G. Valpey Hazel J. Jones
Hazel J. Jones
Lois S. Herron
A Leipment L. lo. Servent L.
Wayne W. Untereiner
Gerhard E. Ehmann
James T. Mavity
Giles T. Brown
Virginia P. Davis
Otto J. Sadovszky
Allen M. Zeltzer
Raymond E. Denno
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Paul C. Obler
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Ernest W. Toy, Jr. Donald W. Keran
Barbara E. Davis
Herta D. Fischer
Eugene L. McGarry
Ralph Emerson Bigelow
Part C. Altalon & Proposition
ges Emmett T. Long
Mildred H. Scott
John B. Sweeney
Gregory D. Vermillion
Kenneth R. Doane
Gene H. Dippel
John D. Parker
(Acting) Charles W. Buck
Ronald Langdon, Jr.
Section 19
STATE OF THE PARTY
(A The Transfer
(Acting) Edward Jacobson

Schools, Divisions and Departments

Psychiatric Counselor	Lincoln Shumate, M.D. Daniel T. Kawakami
Counselor	Arthur W. Lynn
Counselor	
Counselor	Treva R. Sudhalter
Counselor	Frances C. Nardi
Counselor	Nathaniel L. Simms
Counselor and Adviser to International Students	
Testing Program Supervisor and Research Anal	
Psychometrist	Roberta F. Browning
Associate Dean of Students and Director of	Inumaro.3 to morenimoo.3
Judicial Affairs and Special Projects	James L. Catanzaro
Assistant Director of Judicial Affairs	Junes 21 Outunate
and Special Projects	William J. Reeves
Associated Students Administrator and Director	loosistinition for Campus Polis
of Student Activities	William G. Pollock
Associate Director of Student Activities	James H. Gallaher
Assistant Director of Student Activities	Harvey A. McKee
Assistant Director of Student Activities	Terre Ann Stier
Director of Housing	Thomas H. Urich
Residence Hall Director	David Brown
Director of Placement Services	Ernest A. Becker
Placement Supervisor	Mary G. Condon
Placement Supervisor	Eva C. Jensen
Director of Financial Aids	Eva C. Jensen Thomas D. Morris
Director of Student Health Center	William H. Wickett, Jr., M.D.
Staff Physician	Arthur E. Alne, M.D.
Staff Physician	Robert J. McFerran, M.D.
Staff Physician	Iris O. Moremen, M.D.
Staff Physician	Helen L. Morton, M.D.
Staff Psychiatrist	Robert A. Rounds, M.D.
Staff Physician	Edward L. Russell, M.D.
Staff Dermatologist	Norman A. Soderquist, M.D.
Staff Physician	Harree Siler, M.D.
Staff Physician	Edwin B. Whiting, M.D.
College Business Manager	Thomas A. Williams
Administrative Assistant	Dennis C. Wharton
Budget Analyst	Robert G. Fecarotta
Accounting Officer	Glenn R. Mitchell
Procurement and Support Services Officer	Paul H. Roder
SCHOOLS, DIVISIONS AND	DEPARTMENTS
4. BOM	
School of the Arts	
Art Department	
Dance Department	
Music Department	Leo E. Kreter
Theatre Department	Alvin J. Keller

	James K. Hightower, Associate Dean
Accounting Department	Robert A. Meier
Economics Department	John D. Lafky
Finance Department	
Management Department	Donald R. Shaul
Marketing Department	
Quantitative Methods Department	

Schools, Divisions and Departments

School of Education	(Acting) Ida S. Coppolino, Dean
School of Education	Donald E. D. Pease, Associate Dean
Rehavioral Sciences in Education Dena	rtment Calvin C. Nelson
School Administration (Social Foundate	ions Department Ernest G. Lake
Teacher Education Department	Bernard Kravitz
Teacher Education Department	Bernard Kravicz
School of Engineering	Robert G. Valpey, Dean
Faculties	
Civil Engineering/Engineering Mechan	nicsGeorge C. Chiang
Electrical Engineering	Eugene B. Hunt
Mechanical/Aerospace Engineering	Floyd W. Thomas, Jr.
Mechanical/Acrospace Engineering	rioya vv. Inomas, ji.
School of Letters, Arts and Sciences	Hazel J. Jones, Dean
	James D. Young, Associate Dean
	William C. Langworthy, Associate Dean
Afro-Ethnic Studies Department	Michael A. Finnie
American Studies Department	
Anthropology Department	Hans H. Leder
Biological Science Department	Donald B. Bright
Chemistry Department	
Chicano Studies Department	
Communications Department	
English Department	Joan V. Greenwood
Foreign Languages and Literatures De	partment Walter D. Kline
Geography Department	Ronald A. Helin
History Department	B. Carmon Hardy
Linguistics Department	David M. Feldman
Mathematics Department	
Philosophy Department	Paul C. Hayner
Physics Department	
Political Science Department	Charles G. Bell
Psychology Department	
Religious Studies Department	Donald H. Gard
Science and Mathematics Education D	Department George C. Turner
Sociology Department	Ernest Works
Speech Communication Department	Lee E. Granell
Division of Health Education/Physical	Education/
Recreation/Athletics	Paul J. Pastor, Chairman
Athletics Department	John E. Caine
Physical Education Department	Eula M. Stovall
Division of Interdisciplinary and Speci	al Studies Paul C. Obler, Chairman
Programs and Directors	
Interdisciplinary Center	Paul C. Obler
Environmental Studies	William C. Langworthy
Latin American Studies	William J. Ketteringham
Master of Arts Degree in Social Scient	nce George Giacumakis, Jr.
Russian Area Studies	Robert S. Feldman
Technological Studies	Barry E. Gerber
Urban Studies	Arthur D. Earick
Division of Library Science	Doris H. Banks
or Elbrary ocieties	San and Author

COLLEGE COMMITTEES, 1970-71

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Faculty Council

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^{*} Student.

Member of Statewide Academic Senate.

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Ernest A. Becker
Jack C. Emmons, College Facility
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THE COLLEGE: AN OVERVIEW

PHILOSOPHY AND OBJECTIVES

The main functions of an institution of higher learning are to disseminate and advance knowledge. The philosophy which guides an institution can limit or promote the successful achievement of these objectives. Therefore, from its inception, the college has directed its educational program toward the fullest possible development of the individuals who participate in it. For both faculty and students this entails a commitment to high standards of scholarship, a comprehensive rather than a narrow approach to major areas of study, and a concern with research and other creative activity.

The college holds to the belief that an enduring educational experience must be founded upon exploration of our cultural heritage, through basic studies in the liberal arts and sciences, and that it can and should at the same time prepare for success in a chosen occupation or profession. Accordingly, the required general education program has as its objective the development in each student of:

- 1. The effective use and interpretation of the written and spoken language.
- An understanding of the wide range of human endeavor and accomplishments in liberal arts and sciences, their interrelationships, and the various choices and values they represent.
- An understanding of information and principles in some areas of the liberal arts and sciences in sufficient depth to encourage critical and creative thought and expression.
- A spirit of inquiry into the past and into the future, in order to cope with conditions in the continually changing world.
- An understanding of the rights, privileges and responsibilities of citizenship in the community and nation, and of effective participation in today's world.

In addition, the college requires of all students who are candidates for a degree—whatever their special purpose—the pursuit of a subject major.

(For specific details, see page 74.)

RETROSPECT AND PROSPECT

California State College, Fullerton was the 12th State College in California to be authorized by the Legislature. The following year, 1958, resulted in the designation of a site in northeast Fullerton, and 1959 saw the purchase of the site, the appointment of Dr. William B. Langsdorf as the founding president, the selection of the first staff, and the planning for the opening of the new college in the fall. Orange County State College started classes for 452 full-time and part-time students in September, 1959, using leased quarters for its administrative offices on the Fullerton Union High School campus and for its classrooms at Fullerton's Sunny Hills High School. In the fall of 1960, the college opened classes on its own campus where it occupied 12 temporary buildings. The name changed to Orange State College in July, 1962, to California State College at Fullerton in July, 1964, and to California State College, Fullerton in July 1968. The first permanent building, the six story Letters and Science building, was occupied in 1963.

Today, there are many dramatic evidences of additional, very rapid growth. Nine permanent buildings have been completed. The enrollment of students was 14,149 in the fall of 1970 when Dr. Langsdorf relinquished the presidency to accept an appointment as the vice chancellor for academic affairs of the California State Colleges and Dr. L. Donald Shields was named the acting president. Since

1963, the curriculum has expanded to include lower division work and many graduate programs. More than \$50 million already has been invested in land, buildings and equipment—a sum expected to increase appreciably by the 1980s when the college is due to reach its projected peak enrollment of nearly 30,000.

During this rapid growth, the college also has achieved a growing reputation for academic excellence. California State College, Fullerton began this spectacular development at a period when the citizens and government of California were revising and greatly expanding their commitments to quality public higher education. The Donahoe Higher Education Act of 1960 established the California State Colleges as a system under an independent Board of Trustees, redefined the functions of the State Colleges, and related them to both the community colleges and to the University of California system. In this atmosphere of public support, California State College, Fullerton was the first of the State Colleges to submit and secure approval for a five-year master curricular plan and one of the first three to secure approval of a master building plan and one that was able to think in terms of its ultimate enrollment objectives from the beginning. During the same period, Orange County was experiencing its own unprecedented growth.

In 1969-70, it became apparent that colleges and universities statewide and nationally were entering a new period of development. Growing financial problems on all levels of government, mounting criticisms of contemporary educational policies and practices, and a loss of much public support for education were symptomatic of much deeper and more widespread problems and changes in our society and its schools. In the context of what increasingly seemed to be the emergence of a new, and in many ways, different type of culture and world, the colleges and universities (like other major institutions) were acutely experiencing the confusions and conflicts such basic and rapid cultural transformations generate.

Like other colleges and universities, California State College, Fullerton, currently is reexamining and reevaluating even its most basic educational goals and assumptions and practices. It is not yet clear how higher education can more effectively assume its central responsibilities for teaching, developing knowledge, and providing public service in the future that lies ahead. It is clear, however, that higher education must become more aware of, more articulate about, and more scholarly regarding the learning experiences that occur on and outside campuses. It is clear, too, that vigorous and imaginative and pluralistic educational experimentation needs to be rapidly and greatly increased and that students as well as members of the larger community have vital and increasing roles to play in these processes. There are developing, too, deepening and widening convictions that: educators may have underestimated the potentialities and learning capacities of people; and that new teaching strategies and curriculum materials could result in higher, and an increasingly widespread attainment of, educational standards.

California State College, Fullerton is looking forward to increasing the contribution it may make in the work ahead. This college already is rethinking and improving the quality of its part in higher education so that people will have more freedom to shape and create the sort of future they value and that is possible with

the resources and knowledge that man now has.

NATURAL AND CULTURAL ECOLOGY

Fullerton, a city of 85,000 inhabitants, is located in northern Orange County, about 30 miles southeast of central Los Angeles. It is in the center of the new Southern California population center and within easy freeway access of all the

diverse natural and cultural attractions of this region.

Orange County, with an area of 782 square miles, is the 48th in size of California's 58 counties, but it is the second largest county in population (1.4 million plus), and in total personal income. Orange County has experienced during the last 20 years almost unprecedented growth of population, economic and other activities: it was the fastest growing area in the United States. This expansion came partly because of the proximity of Orange County to rapidly expanding Los

Natural and Cultural Ecology

Angeles; the increasing access through the developing freeway system; and natural

attractiveness of the beaches, countryside, and climate.

In 20 years what had been a predominantly, slowly-changing agricultural and resort area, was transformed into a dynamic and predominantly industrial growth center for new types of manufacturing and commercial and cultural enterprises. Much land in Orange County, however, still is available and comparatively untouched. Agriculture, and particularly orange groves and cattle ranching, still are highly visible activities. But space-age industries and industrial parks, new schools and shops and housing developments, tourist facilities and imaginative cultural attractions, and large scale planned communities continue to encroach upon the diminishing expanses of habitable land.

Today, there co-exists an interesting mixture of the old and new economic and life styles in Orange County. Underneath the soil, archeologists and bulldozers uncover traces of the hunting and gathering Indian bands which flourished as early as 4,000 years ago in what was a benign and bountiful region. More visible traces remain of the Spanish and Mexican periods and cultures: Mission San Juan Capistrano, which began the agricultural tradition in Orange County, and subsequent adobes from the great land grants and ranches that followed. Additionally, both customs and many names persist from this period, and so does some ranching. The architectural and other evidences of the subsequent pioneer period are still quite visible: farmsteads, old buildings from the new towns that then were established in the late 1800s, mining operations, and traces of early resort and other types of promotional activities. For about 100 years, farming was the main economic activity with products such as grapes, walnuts, vegetables, and increasingly oranges replacing the older wheat and cattle ranches. Today, agriculture still is very important, and Orange County ranks sixth among California's counties in mineral production with its oil, natural gas, sand and gravel, and clay mining and processing activities.

The extensive development of the 42 miles of beaches in Orange County and the development of such attractions as Disneyland, Knott's Berry Farm, the Laguna Festival of Arts and Pageant of Masters, and the Anaheim Stadium and Convention Center continue to make tourism an increasingly important activity. So does the Mediterranean-type climate with: rainfall averaging 14 inches per year; and generally mild days (with either freezing or 100-degree temperatures uncommon) with frequent morning fogs during the summer. Both downtown Los Angeles and the Pacific Ocean can be reached by car in half an hour, and mountain and desert recreation areas are as close as an hour's drive from the campus.



THE CAMPUS AND ITS BUILDINGS

Once part of a vast orange grove, the attractively landscaped campus now consists of 225 acres bounded on the south by Nutwood Avenue, on the west by State College Boulevard, on the north by Yorba Linda Boulevard and on the east by the Orange Freeway. The portion of Orange County immediately surrounding the college is predominantly suburban: it includes housing tracts, apartment complexes, shopping centers, space-age industrial firms and still remaining orange groves and undeveloped hills and fields.

The campus itself has a high density urban layout of buildings and facilities developed to serve a predominantly commuting public. The college's modern buildings were planned so that no student should need more than 10 minutes to go from one class to another. The campus is surrounded with well-lighted and landscaped parking facilities. Shopping and services are available in College Park, a commercial establishment just adjacent to the campus on the south near the

Othrys Hall student residence.

Even though most of the campus has been converted into modern buildings, facilities for athletic activities, parking lots, or attractively landscaped areas, there still remain about 40 acres of the original orange grove, several older buildings, one which has been converted into the attractive Faculty Center and another into the Foundation headquarters, and many of the original temporary buildings.

The first permanent building, the Letters and Science Building, was occupied in 1963. This imposing structure, master planned to serve ultimately as a facility for undergraduate and graduate science instruction and research, has been used to house other programs until they could warrant new facilities of their own.

Since 1963, growth has been rapid. The Music-Speech-Drama Building was completed in 1964, the Physical Education Building in 1965, the Library-Audiovisual Center in 1966, the College Commons cafeteria facility in 1967, the Humanities-Social Sciences Building and Art Center in 1969, and the Administration-Business Administration Building and Engineering Building in 1971.

The latter two reflect a commitment to programs with high community involvement. In addition to the many undergraduate students who will study and learn in these buildings, many professional engineers and local businessmen also will use

these very advanced facilities to continue their educations.

New buildings are being planned to keep pace with college enrollment increases. At least one new academic facility and several building additions are contemplated for the 1970s. A 25,000-square-foot, ultramodern Student Health Center and a



Students of the College

large College Union are presently on the drawing board. These facilities will be available by the mid-1970s.

The ample freeway and surface street accommodations that approach the main entrance to the college's modern campus also provide comparatively easy access to the great and diverse learning resources available in Southern California: many other colleges and universities; museums, libraries, art galleries; zoos; and the wide variety of economic, governmental, social, and cultural activities and experiments that may be found in this dynamic and complex region of California and the United States.

STUDENTS OF THE COLLEGE

Much of the distinctive character and learning atmosphere of any campus comes from the nature and vitality of its students. Diversity, the synthesis of academic with work and family interests, strong high school records and relative maturity are some of the predominant characteristics of the student body at California State College, Fullerton. The campus is both a large and a still rapidly growing one despite its comparative newness. More than 14,000 students were enrolled in 1970–71, and this year's total is expected to exceed 16,000.

The college is a commuter institution: less than 5 percent of the students live on campus; 29 percent work 35 hours a week or more; and yet 65 percent take 12 or more units of coursework each semester. Seventy-five percent come from a radius of 15 miles from the campus, but many have lived elsewhere before coming to Orange County.

About one quarter are lower division students, one half are college juniors and seniors, and another quarter are doing graduate work. Fifty-nine percent are men, and the median age is 23. Forty-one percent are women, and the median age is 22. Forty-one percent are married. One third of the students participate in both the day and evening programs during the regular semesters, and one tenth are involved only in the late afternoon or evening program.

Many already have clearly defined disciplinary, professional, and artistic interests. Some still are searching for a meaningful vocation and are in the process of exploring different fields of knowledge and the work that might develop from them. Most are trying to understand themselves and their world better so that they can become more effective human beings and citizens.

THE COLLEGE FACULTY

Central to the effectiveness of any college is the quality and dedication of its faculty. California State College, Fullerton is proud of the high caliber of its faculty and of the commitments of its individual faculty members to teaching and scholarship.

In the fall of 1970, there were 547 full-time and 250 part-time faculty members teaching on the campus. For the full-time faculty members the median age was 35, and almost all had had some previous college teaching experience before coming to Fullerton. Faculty members also have a wide variety of experiences and accomplishments in research, the arts, professional work, consulting, and other creative activities. Sixty-five percent of the full-time faculty have earned their doctorate degrees, and these have come from more than 100 major colleges and universities.

Criteria for selection to the faculty include mastery of knowledge in an academic specialty, demonstrated skill and experience in teaching, and continuing interest in scholarly study and research. Retention and promotion criteria also include service to the college and to the community.

ACADEMIC PROGRAMS

The college offers a full four-year program of freshman through senior work as well as credential programs for teachers and graduate, master's level work in many disciplines and professional fields. The college provides a diversity of educational opportunities to satisfy the broad range of backgrounds and interests of its students. Approximately 1,500 courses have been developed to provide learning from introductory to highly specialized, in-depth and advanced, work in

a wide variety and growing number of fields of study.

Fullerton currently awards the baccalaureate degree in 33 fields of knowledge. More advanced work and the master's degree are awarded in 28 programs. Many of the baccalaureate and master's degree programs offer a choice of specializations (or options or emphases). Additionally, at least a few courses are given in many fields or subject matter areas in which some other colleges and universities offer full degree programs. Often these courses are given by a number of different departments. Such an interdisciplinary trend fits not only with broader, cultural integrations of knowledge but also with the recent development of a growing number of interdisciplinary efforts, including some new degree programs, at

Certain patterns have developed with the academic programs at California State College, Fullerton. One is that of relative balance in strength of the programs in the physical sciences, the social sciences, the humanities and the fine arts. Another is that of academic excellence in the various specializations offered by the college and the comparative freedom given to departments and professional schools to develop the depth programs for their majors. Another pattern is the great freedom given to most students in selecting courses to satisfy their general education or breadth requirements. Still other tendencies include the encouragement of: a diversity of approaches to teaching; experimentation and innovation in courses and programs; and student participation in curricular planning and decision-making.

ACCREDITATION

The college is fully accredited by the Western Association of Schools and Colleges. Specific programs have been accredited by the California State Board of Education, the American Association of Collegiate Schools of Business, the National Association of Schools of Music, the American Chemical Society, American Speech and Hearing Association, the American Council on Education for Journalism and the National Council for Accreditation of Teacher Education (in elementary education, secondary education, special education, and speech and hearing audiology).

California State College, Fullerton is a member of the Council of Graduate Schools in the United States and the Western Association of Graduate Schools.

SCHEDULE OF CLASSES

The regular, educational program of the college is offered continuously from 8 a.m. until 10 p.m., Monday through Friday. A class schedule, listing all classes meeting during these hours, is prepared for each semester and can be bought at the Titan Bookstore.

The classes held during the late afternoon and evening hours are a growing part of the regular college offering and are taught by the full-time and part-time college faculty members. Students enrolling in these classes must have met all admission requirements of the college, including the filing of an official application for admission, the filing of complete official transcripts from other schools and colleges, and in the case of lower division applicants, the completion of required tests for admission.

The classes given during the summer sessions and by the Extension Office do not require admission to the college, but specific courses frequently require satisfying particular prerequisites. Separate schedules are provided for the summer sessions

and extension programs.

Fullerton.

SUMMER SESSIONS

Nature of the Summer Sessions

The summer session is designed to meet the needs of students who are interested in the enrichment of their educational background as well as completing requirements for a degree or credential. Summer session courses are the equivalent of college courses offered in the fall and spring semesters, and apply toward graduation and residence requirements as well as teaching credential requirements. Both day and evening classes are scheduled. Many courses have prerequisite requirements which students must meet. Master's degree work is also offered.

The college usually conducts two six-week sessions which run consecutively. The dates for the 1971 sessions will be June 21 through July 30 for the first session, and August 2 through September 10 for the second. Also offered are a number of two-and three-week workshops. In addition to much of the regular curriculum, summer offerings include many unique and innovative programs for teachers and other professional groups. The Associated Students Office offers a program of recreational

activities and a lecture series to serve a wide variety of interests.

A summer sessions class schedule is usually available by February, and may be obtained by writing the dean of continuing education. This schedule contains information on matters such as costs and registration.

Admission to the Summer Sessions

Although the quality of the program and most of the course offerings are the same as in the regular session, the college does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students are expected to have satisfied the prerequisites for the courses in which they register. Admission to summer session does not grant admission to the regular session. Admission to the summer sessions is completed at registration.

Authorized Student Load

Title 5 of the California State Administrative Code states, "Not more than one semester unit may be earned for each week of attendance in summer session, except that upon approval of appropriate college authorities, additional semester units may be earned at the rate of one-half unit for each three units of credit for which a

student is registered."

This means that combinations can be arranged so that a student may earn up to seven units during either of the two six-week summer sessions when a total of not more than two courses is involved (i.e., a four-unit course and a three-unit course, or a five-unit course and a two-unit course). Any student who enrolls by error in more than seven units during a six-week summer session will find that credit for excess units will not be counted toward a degree, credential or other objective. Any other exceptions must be petitioned through the Office of Admissions and Records.

EXTENSION PROGRAM AND SERVICES

Through the extension program, the resources of the college are made available to those who are unable to take college work in residence but who wish to pursue college-level study for purposes of resuming an interrupted or incompleted education, to enhance professional or vocational abilities, or for personal growth and fulfillment.

Extension offerings include regularly established college courses as well as courses and workshops designed to meet the needs of particular groups and communities, and may be initiated at various times during the year. Any adult may enroll in an extension course provided he meets the prerequisites of the course; it is not necessary that he also be enrolled in the college.

The maximum extension credit which will be accepted toward baccalaureate degrees is 24 semester units, of which not more than 12 units may be transferred from another college or university. Six semester units of extension and/or transfer credit may be applied toward a master's degree with appropriate approvals. Extension credit may not be used to fulfill the minimum residence requirements for graduation.

Veterans may use the educational benefits available to them under federal and state laws to enroll in college extension courses provided the classes are part of their prescribed and recognized objectives as approved by the Veterans Admin-

istration.

For information about establishing an extension course, or for current offerings, write or telephone the Extension Office.

CONFERENCES AND INSTITUTES

The college is interested in taking an active part in the development of conferences and institutes. The conference director, in cooperation with the respective academic departments and schools, will work with agency representatives in planning the program, selection of a competent staff, and the general conduct of the conference.

Requests for information or assistance with particular educational problems which might be met through the extension program should be directed to the conference

director.

INTERNATIONAL PROGRAMS

A study abroad program of global scope is offered by the California State Colleges through the California State Colleges International Programs. Study opportunities for students from all 19 campuses include full-year curricula at distinguished

institutions of higher learning throughout the world.

Cooperating universities abroad include University of Aix-Marseille, France; Free University of Berlin and University of Heidelberg, Germany; University of Athens, Greece; University of Florence, Italy; University of Coimbra and University of Lisbon, Portugal; University of Stockholm and University of Uppsala, Sweden; University of Copenhagen, Denmark; University of Madrid and University of Granada, Spain; State University of Leningrad, U.S.S.R.; Tel Aviv University and Hebrew University of Jerusalem, Israel; American University of Beirut, Lebanon; Waseda University, Japan; National Chemgchi University, Taiwan; Andhra University and the Universities of Benares and Delhi, India; Catholic University, Peru. In the United Kingdom, cooperating universities, which may vary from year to year, have included Birmingham, Bristol, Dundee, Exeter, Leicester, Liverpool, London, Nottingham, Oxford, Sheffield, Southampton and Wales. Cooperative arrangements also exist with Netherlands School of Business, Netherlands, and Centro de Estudios Universitarios Colombo-Americano (CEUCA), Colombia, and study opportunities are offered in Ghana, Africa.

Selected students remain enrolled and continue to earn residence credit at the home campus. Academic work successfully completed at the cooperating institutions abroad is applied toward the degree requirements of the college in accordance with college regulations. Students are selected from each college on the basis of academic, linguistic and personal qualifications, as well as career objectives. Re-

quirements include:

Upper division or graduate standing by the beginning of the academic year abroad.

Grades of B (3.0) or better in 30 semester units or 45 quarter units.

Proficiency in the language of instruction, as specified below.

Faculty recommendations.

Instructionally Related Services

Cost to the student ranges from \$2,000 to \$2,500 and includes round-trip transportation from San Francisco to the study centers, room and board for the academic year, and health and accident insurance. For 1971–72, these costs are: Taiwan, \$2,000; France, Germany, Ghana, Portugal, Spain, \$2,200; Colombia, Israel, Lebanon, Peru, U.S.S.R., \$2,300; Italy, Japan, \$2,400; Denmark, Greece, India, Netherlands, Sweden, United Kingdom, \$2,500. Students remain eligible for any financial aids available at the college, and payments may be made in installments over the year.

Proficiency in the language of the host country is a requirement for the Programs in France, Germany, Latin America, Portugal, Spain and the U.S.S.R. Ordinarily, two years of college-level study of the language, or the equivalent, will satisfy this requirement. In the U.S.S.R., however, three years language study is mandatory. Even where language proficiency is not required, however, competence in the language of the host country will assure broader curricular opportunities.

Application for the 1972-73 academic year should be made early in the fall semester of 1971. Detailed information may be obtained from the campus International Education Office or by writing to the California State Colleges International Programs, 1600 Holloway Avenue, San Francisco 94132.

INSTRUCTIONALLY RELATED SERVICES

The college provides an extensive program of instructionally related services for its students and faculty. These include the collegewide services of the college Library, the Instructional Media Center, and the Computer Center described in the following sections. Two offices, Academic Planning and Institutional Research, make studies on college programs and assist in coordinating and planning educational operations and sharing information on educational trends and innovations on the Fullerton campus with those going on elsewhere.

The College Library

The college Library is housed on the first and third through sixth floors of the Library-Audiovisual Center, which was completed in 1966. As its collection grows and the enrollment increases, the Library will occupy two more floors of the building. Designed presently to seat approximately 1,150 persons and to house about 300,000 books as well as related materials, the building contains group study and seminar rooms, study carrels for graduate students and facilities for individual and group listening, for the reading of microform materials and for copying materials in book and microform.

The main book collection will contain about 300,000 volumes at the beginning of the 1971–72 academic year. During that year about 50,000 volumes will be added. Besides attempting to build a balanced collection of basic works, the Library has concentrated its efforts in several subject areas. As a result relatively strong collections are now available in such fields as World War II, international relations since 1870, Kant, Shakespeare, Melville, ichthyology, angling, historiography and historical bibliography, library science, and mathematics.

A selective depository for U.S. government documents since 1964, the library will house about 98,000 U.S. documents by the beginning of the 1971–72 academic year. The library has, in addition, some 10,000 reels of microfilmed U.S. government documents, chiefly State Department archives, but also such items as the Congressional Record and the papers of various presidents as well as microfiche copies of the material in Project ERIC. The library is a depository for California state documents and for California curriculum materials, including current samples of state adopted texts, curriculum guides from all over the United States, and non-book instructional materials.

The Library subscribes to over 4,000 periodicals. It has some 18,000 volumes of bound periodicals and has extensive microform holdings in backfiles of periodi-

cals and of local, national, and international newspapers.

Among its major holdings are the Human Relations Area Files, the British 19th Century Parliamentary Papers, the Parliamentary Debates, a microfilm edition of the Published Colonial Records of the American Colonies, 1619–1800, and in conjunction with the Patrons of the Library, the Langsdorf Anniversary Collection of Grabhorn Press and Book Club of California books.

Library hours are posted in the lobby and listed in the library handbook which is available at the reference and circulation desks. Librarians with various subject backgrounds are on duty at all times to aid students and faculty in the use of

library resources.

Instructional Media Center

The Instructional Media Center includes both the extensive Audiovisual Services located in the lower level of the Library Building and the Instructional Television Services located in the TV Studio of the Music-Speech-Drama Building. Services to faculty and students include use of all types of audiovisual equipment and materials, rental of films from major rental libraries, and for faculty: production of transparencies, charts, posters, embossographs and diagrams plus all types of still and motion picture photography. Television services include videotaping facilities and playback both in the studio and on or off campus.

The center is responsible for the coordination and development of instructional applications of media, and the improvement of programs and materials designed for instructional use. Liaison and service relations are maintained with other media learning-oriented units on the campus. Personnel of the center are prepared to assist the college faculty in their analysis of media needs as related to the procurement or production of materials pertinent to instructional development.

Computer Center

The Computer Center, located on the second floor of the Administration-Business Administration Building, serves as the central computing facility for all of the college. As the central campus computing facility, it provides instructional, re-

search and administrative computing services.

The computing system is a CDC 3150 with 16,000 word (65,000 character) memory, card reader, card punch, line printer, two disk drives, and two magnetic tape drives. Data communications equipment connects this system to a larger CDC 3300 computer located at a regional center in Los Angeles; hence, campus users also have access to the CDC 3300 for uses beyond the capability of the CDC 3150. Peripheral equipment such as keypunches and a sorter are available in an open shop area in the Computer Center for student use.

Instruction in computer programming is offered by several departments at the college. Many other departments require use of the computer facility in their coursework. Students' programs are batch-processed several times daily, and a consulting service to assist users is available. The Computer Center maintains a library of application programs for general use. This library will be augmented as new programming languages are supported by the Computer Center: FORTRAN, COBOL, ALGOL and COMPASS (Assembly Language for the CDC

3150).

Office of Academic Planning

In 1969 the Office of Academic Planning was created to coordinate the development of educational programs, to provide an all-college perspective on educational activities at the campus, and to stimulate academic innovations. A dean of academic planning was appointed to provide leadership for this office and to work closely with the vice president, academic affairs and the Curriculum Committee and other

Research Organizations and Services

individuals and groups concerned with changing and improving the educational

programs of the college.

This office currently is responsible for preparing the schedule and catalog and for some of the college-level reviewing and approving of new courses and programs. It also makes studies of important educational problems and activities on the campus. Additionally, it does the preliminary fact finding and staff work for some of the new plans, policies and procedures designed to improve the quality and vitality of the learning climate and experiences on the campus.

Office of Institutional Research

The Office of Institutional Research serves as an information center and a problem-solving agency which collects, interprets and disseminates information. These data include enrollment histories and projections, distributions of data classes according to selected factors (e.g. level, type of instruction, unit value), summaries of student characteristics, and other statistics related to student population, course offerings and resources. Most of the data collection and analysis is related to the reporting requirements of the California State Colleges and other agencies. However, the office evaluates data, provides assistance in design of specialized studies and also conducts analytic studies to serve the decision-making and policy-formulating needs of the college.

RESEARCH ORGANIZATIONS AND SERVICES AND SPECIAL STUDY CENTERS

Much and varied research is going on at Fullerton. Most of this is being done by individual faculty members and students as part of their scholarly and professional development activities. Research training is an important part of the education for more advanced work in most disciplines and professions, and many of our students are encouraged and assisted to learn and apply research skills in either independent or team projects.

The Research Committee of the Faculty Council and the Contracts and Grants Office provide stimulus, coordination and direction to the research efforts of the

college.



A Student Research Fellowship program and a Faculty Research Grant program award "seed grants" to promising research projects every year. Services supporting research are given by the College Foundation, the college Computer Center, and the college Library. Augmenting the on-campus aids to research are the great and diverse resources available for study in the Southern California area.

A number of special centers with specific research objectives are operating at the college. These include the Center for Research in Business, Economics and the Community (with its affiliated Center for Economic Education, the Real Estate Research Institute, the Technological Studies Institute and the Joint Institute for Urban Studies), the Center for Governmental Studies, the Institute for Molecular Biology, the Reading Center, the Laboratory for Phonetic Research, the Special Education Clinic, the Speech and Hearing Clinic and the Tucker Wildlife Sanctuary.

Center for Research in Business, Economics and the Community

The Center for Research in Business, Economics and the Community provides:

 School of Business Administration and Economics and other faculty with additional opportunity to participate in research activities in order to improve and reinforce teaching and professional competence;

(2) Professional research and consultation services to the local area normally considered as being serviced by the college, including private business,

labor, agriculture, and local government agencies;

(3) Educational services, e.g., seminars and conferences, to improve the level of understanding and competence of local decision-makers in specialized areas relating to business administration and economics; and

(4) A focus, through research, for the education of students and citizens in the business and economic problems of the local community, and for the involvement of faculty in such educational programs.

The operations of the center are carried out by constituent institutes, programs, and projects for which the center provides overall leadership and coordination. The institutes are long-term, continuing organizations designed to operate in selected major problem and functional areas of strategic significance and concern to the school. Programs and projects within the center are organized to carry on work outside the Institutes' area of interest, which are a smaller scale and for a shorter time-span.

Currently included within the Center for Research in Business, Economics and the Community are: the affiliated Center for Economic Education; the Real Estate Research Institute; the Technological Studies Institute; and the Joint Institute

for Urban Studies.

Center for Economic Education

The Center for Economic Education is one of many such centers at colleges and universities in the United States working with the national Joint Council on Economic Education to expand economic understanding. Center programs include (1) services to schools and colleges, individual educators, and the community; (2) research and professional training; and (3) operation of an economic education information center. The center consists of a broadly based executive policy board; an administrative staff; and formally organized groups of participating users. Although operating autonomously, the center is affiliated with the Center for Research in Business, Economics and the Community.

Real Estate Research Institute

The Real Estate Research Institute conducts a continuing research program, with special emphasis on urban development in Orange County. Studies are undertaken in cooperation with various public and private agencies, including the University of California, but primary funding is from the Department of Real Estate of the State of California. Opportunities exist for student participation in the various research activities.

Research Organizations and Services

Technological Studies Institute

The Technological Studies Institute conducts an interdisciplinary program of technological studies including research activities closely integrated with special course offerings and a library collection on technology. Research activities include study of methodology and techniques for measuring and analyzing technological change and its economic and social impacts; study of technology transfer and applications; and analysis of impacts of technological change on individuals, industries and society. Curriculum activities of the program are coordinated through the Interdisciplinary Center of the college and courses included in the program are listed with that center's courses in this catalog.

Joint Institute for Urban Studies

The Joint Institute for Urban Studies represents a cooperative effort by California State College, Fullerton and the University of California, Irvine to study the processes and problems of urban development with special reference to Orange County.

Center for Governmental Studies

The Center for Governmental Studies is part of the Department of Political Science's expanding research and teaching activities. Established in 1965, the center has four major functions: first, to collect and make available fugitive governmental and political materials; second, to assist local government agencies and citizen groups in the study of local governmental problems; third, to provide students with instruction and experience in research techniques and methodology; and fourth, to provide facilities for community institutes and seminars.

Institute for Molecular Biology

The Institute of Molecular Biology was established for the purpose of promoting an atmosphere congenial to research and creative activity in the molecular biological sciences. It is an interdisciplinary organization comprised of certain faculty from the Departments of Biological Science, Chemistry and Physics. The institute is dedicated to the pursuit of problems of human welfare, utilizing an approach at the cellular and molecular level of inquiry. Its purposes are (1) to foster and encourage communication of ideas and information among its membership for mutual professional improvement; (2) to encourage students to adopt affiliation with the membership and to adopt an interdisciplinary understanding of their particular areas of emphasis; (3) to foster an active research program on the part of the membership on problems best approached by the integration of chemistry, physics and biology; and (4) to seek ways of improving the individual teaching performance of its membership through interdisciplinary communication at all levels of instruction.

It is intended that the institute will function as a service to the departments that it represents. The institute sponsors a series of special seminars devoted to topics in the molecular biological sciences, featuring speakers from its own personnel and from other campuses.

Reading Center

The Reading Center is located in the School of Education. Its primary purpose is to serve as a clinic and laboratory for graduate students in the reading option of the Master of Science in Education. Children from the college community schools attend the Reading Center for diagnosis and remediation. The center houses materials and equipment relating to reading instruction.

Laboratory for Phonetic Research

The Laboratory for Phonetic Research is a major research and training facility in the Department of Linguistics at California State College, Fullerton. It is

equipped with the necessary electromechanical facilities required for the acoustical, psychoacoustical, and physiological study of human speech.

Its objectives are threefold:

Instruction. To provide teaching, training and experience for students who will serve during their professional lives to assist the language handicapped. Research. To provide advanced students and faculty with facilities for research on language function and dysfunction.

Community service. To provide qualitative diagnostic assistance to the college

community to the extent possible.

The courses which center about the laboratory are designed to prepare students as operators in the electromechanical aspects of clinical and research work in the

analysis of normal and disordered speech.

Advanced students and faculty use the laboratory to carry out significant research projects in acoustical, articulatory and experimental phonetics. To date, a wide range of such projects have either been completed or are currently in progress. The Laboratory publishes the *Research Reports* series, available internationally through the ERIC system.

Special Education Clinic

The primary purpose of the Special Education Clinic is to provide intensive experiences for students with children referred by schools and other agencies in the community. The experiences involve educational assessment, instructional methodology and evaluation. All students participating in the clinic attend clinic seminars and prepare cases for presentation at the seminars.

Speech and Hearing Clinic

The College Speech and Hearing Clinic operates as a nonprofit California State College, Fullerton Foundation agency. In addition is an off-campus clinical program for graduate students that involves experiences within medical and paramedical settings. The primary purpose of the clinics both on campus and off campus is to provide opportunities for teaching, service and research. College students receive clinical experience and opportunity for observation. The on-campus clinic is accredited by the Board of Examiners of the American Speech and Hearing Association and the California State Department of Education.

Tucker Wildlife Sanctuary

The Tucker Wildlife Sanctuary operates as a nonprofit California State College, Fullerton Foundation agency. The sanctuary provides for a program of continuing educational service to the community; a research center for biological field studies; a facility for teacher education in nature interpretation and conservation education; and a center for training students planning to enter into the public service field of nature interpretation.

CALIFORNIA STATE COLLEGE, FULLERTON FOUNDATION

The California State College, Fullerton Foundation, was established and incorporated in October 1959 to provide essential student and faculty services which cannot be provided from state appropriations; to supplement the program and activities of the college in appropriate ways; and to assist otherwise the college in fulfilling its purposes and in serving the people of the State of California—especially those of the area in which the school is located.

Services provided by the foundation include the operation of various college auxiliary organizations including the Titan Bookstore, residence halls and food service; business administration of scholarship and student loan funds; sponsored

research programs; Tucker Wildlife Sanctuary; and certain institutes.

College Foundation

The foundation's overall policies are administered by a board of trustees made up of members of the college faculty, administration and students as well as community leaders.

Titan Bookstore

Students are able to purchase or order books and supplies as needed for classes from the on-campus bookstore, owned and operated by the College Foundation. The Titan Bookstore is a nonprofit operation: its proceeds are used to further the educational aims of the college. It is located directly east of the Letters and Science Building and is closely adjacent to the new Business Administration-Administration Building.

Food Services

On the campus, the Canteen Corporation is franchised to provide food in the College Commons and in a snack bar in the lower level of the Letters and Science Building. Vending machines also are located at other locations. A variety of restaurants and eating places also may be found within a short walking or driving distance from the college.

STUDENT SERVICES AND ACTIVITIES

The college provides many academically-related services for its students so that they can derive greater value from attendance at Fullerton. Included among the areas in which professionally staffed services are provided are relations with schools, counseling and testing, the extensive area of student activities and government, a student residence center, health, financial aid, vocational rehabilitation, international education, placement, judicial affairs and alumni affairs. The offices which provide these services operate under the auspices of the dean of students. The many functions of the Office of Admissions and Records, which also is an integral part of Student Personnel Services, are described in later sections of this catalog.

Opportunities are provided for students to become involved in all phases of college life at California State College, Fullerton. The choices of activities range from membership in small hobby groups to service with members of the faculty and administration on major fact-finding, decision-making and policy-recommending groups. An extensive organization of clubs, interest groups, boards, councils, and committees has been created within the student body and college community so that opportunities to participate in activities are available for all interested stu-

dents.

OFFICE OF THE DEAN OF STUDENTS

Coordination of Student Personnel Services centers in the Office of the Dean of Students. The professional functions of this area are directly administered by the Office of Admissions and Records, the Office of Relations with Schools, the Counseling and Testing Center, the Activities Office, the Student Residence Center, the Office of Placement Services, the Financial Aids Office, the Office of Judicial Affairs, and the Student Health Center. Collateral responsibilities include foreign student advising, coordination of the California State Colleges' international student programs, selective service, veterans' affairs and the alumni program.

RELATIONS WITH SCHOOLS

The Office of Relations with Schools administers a collegewide program to assist undergraduate students in the transition from high school to college. This assistance is provided in the form of preadmissions guidance to prospective high school or undergraduate transfer students, counseling with parents, provision of current information about the college's curricula and requirements to high school and college counselors, and research into the articulation problems of the transfer student.

COUNSELING AND TESTING SERVICES

Counseling

Students who need assistance with such concerns as choosing an academic major or vocational goal, with study skills, or with personal problems affecting their academic progress may obtain help through the Counseling Center. The staff of professionally trained counselors and psychologists has available a variety of resources including occupational information files, vocational and psychological tests, college and graduate school catalogs and directories of various kinds to assist the student.

The Counseling Center also maintains contact with agencies and professional persons in the community to whom students may be referred.

Counseling services are available only to fully matriculated, registered students.

Student Activities

Testing

Collegewide testing programs are coordinated and administered by the Testing Center. These include college admissions tests and general tests for graduate school admission. In addition, the Testing Center provides advice and consulting services to instructional departments in the development and administration of admission, selection, and placement tests for use by a specific department.

The Testing Center also conducts ongoing research on the validity and appro-

priateness of tests used in college testing programs.

Testing requirements for students seeking admission are listed in the admissions section of the catalog. Students seeking information about testing requirements for specific instructional programs should inquire in the appropriate instructional division or the Counseling and Testing Center.

STUDENT ACTIVITIES

The college recognizes the important role of student activities. An extensive organization of clubs, interest groups, commissions, councils and communities has been created within the student body structure so that opportunities are available to every student according to his interest, ability and available time.

Student Activities Center

The Student Activities Center provides a wide range of service for individual students and organizations. A professional staff provides aid and consultation to individuals and groups as well as assisting the Associated Students in planning and implementing programs, events and projects. The staff advises all student organizations concerning established policies and procedures, and aids students in arranging for use of college services and facilities.

Student Government

All registered students are members of Associated Students of California State College, Fullerton. The Associated Students are governed through the executive, legislative, and judicial branches of the Associated Students organization. The president and commissioners constitute the executive branch which has the responsibility for the development and administration of the program, including such activities as publications, religious clubs, intercollegiate athletics, intramural athletics, forensics, and music. The Associated Students Senate has full responsibility for



legislation by which this program is directed and for the allocation of student funds for the program. The judicial branch serves as the legal body for interpretation of the constitution and enforcement of Associated Student policies.

Student Organizations

Student organizations are encouraged and aided by the college whenever students express a desire for activities which add to their educational opportunities. As a relatively young institution, the development of new organizations to serve the needs of a growing student population is rapid. More than 75 organizations are now recognized, including one local and eight national social fraternities, five national social sororities, departmental professional fraternities, and many service, special interest and religious groups.

Student Publications

The college newspaper, the *Daily Titan*, is published as a product of the journalism classes and financed by the Associated Students. In addition, a handbook is available for use by organizations in the development and operation of their program. Two magazines, *Focus* and the *Promethean*, are also published by students.

Athletics

The intercollegiate athletic program consists of teams in baseball, basketball, cross country, football, golf, gymnastics, soccer, swimming, tennis, track and field, water polo and wrestling. A year-round program of intramural activities includes basketball, badminton, flag football, handball, softball, tennis and wrestling, swimming and weight lifting.

The college is a member of the California Collegiate Athletic Association (CCAA). All athletic teams compete under rules of the National Collegiate Athletic

Association (NCAA).

Intramural Activities

The intramural program is conducted on a seasonal basis and involves a variety of athletic and recreational activities for both men and women. Rules and regulations which govern participation in the intramural program are available in the Office of the Director of the Intramural Program or in the Student Activities Center.

Extramural Activities

Participation by women in extramural volleyball, basketball, tennis, swimming, track, and golf is provided through membership in the Extramural Coordinating Council of Southern California and the American Recreation and Athletic Federation for College Women.

College Recreation Association

Individual recreation opportunities in weight training, swimming, handball, volley-ball, basketball and badminton are available through membership in the College Recreation Association to members of the student body, faculty and staff.

Draft Advisement and Information

A professional staff provides information, guidance and referrals for students of the college on all questions and problems stemming from Selective Service requirements. This service, provided by the Associated Students, works closely with the Selective Service assistant in the Admissions and Records Office as well as all other areas of Student Personnel Services.

Birth Control Information Services

Birth control counseling at the Student Health Center has been supplemented by a new Birth Control Information Service, financed and operated by the Associated Students under the direction of the college medical director. A part-time

Student Activities

coordinator is available in the College Union to make appointments with a Student Health Center physician. The physician advises the patient on the advantages and disadvantages of the various methods of birth control as well as giving the necessary physical examination.

Campuswide Events

Student boards, organized by the Associated Students, sponsor many campuswide events. The lecture series, pop concerts, film series and special events are part of the on-going program. All recognized student organizations frequently cosponsor events in the area of their interests.

Child Care Center

Sponsored by the Associated Students is the Children's Center which provides daytime nursery care for children of Cal State Fullerton students for a nominal fee. The professionally staffed center, located near the campus, is licensed by the State of California.

Experimental College

The Experimental College is a program created and funded by the Associated Students. A student director and his staff coordinate, guide, plan and publicize the program to the college community. The Experimental College is recognized by the college community as a creative, positive cocurricular program that is a supplement to the regular instructional program of the college.

Legal Information and Referral

This unique office provides assistance to students on matters pertaining to law and makes referrals in cooperation with the Orange County Bar Association and the Legal Aid Society. A full-time law student attending a recognized school of law maintains scheduled office hours in the College Union.

Mutual Ticket Agency

The Associated Students, through its business office, operates a ticket agency for the benefit of all students. Purchases for drama, music, shows and sporting events may be made during regular office hours. The agency is located in the College Union.

Student Advocates

Ten students from the Office of Student Advocates, organized under the Associated Students Senate guidelines, provide advice and assistance to any Cal State Fullerton student with problems and grievances. The advocates also serve as facilitators to student issues and concerns by participating as appropriate in the resolution of the issue. A major task of the advocates is to provide research into overall relations between students and the college community in an effort to improve the atmosphere on campus.

Student News Bureau

The Student News Bureau was organized in 1960 to provide the outside press with news of student activities on the campus. It is financed by a budgeted allocation from Associated Students.

College Union

The College Union is leased by the Associated Students from the college. This facility houses the Associated Students government offices and business office, as well as the Student Activities Center, student organizations rooms and a snack bar. Facilities are available to all students for meeting rooms, pool, cards, films, and small discussion groups. The union is located in the lower level of the Letters and Science Building.

STUDENT RESIDENCE CENTER

Othrys Hall provides housing for 561 unmarried students in two modern coeducational residence halls located adjacent to the campus. Rooms are mostly fourperson occupancy; however, a few small doubles are also available. Each room has its own private bath. The buildings are fully air-conditioned and carpeted. Among specially designed facilities are a library and swimming pool. Dining facilities are conveniently located on campus in the College Commons.

The residence hall director, assistant hall director, faculty resident, residence hall ombudsman, and resident advisers in Othrys Hall attempt to promote a social, cultural and educational program which supports and expands the classroom experience. The resident has the opportunity to study, assume responsibility through hall government, and discuss serious topics of the day with guest speakers. A new program in experimental education, Project Titan, was begun in fall 1967. Regularly scheduled college classes are scheduled in the residence hall in order to promote a meaningful dialog between faculty members and students in an informal setting.

The Freshman Sponsor Program, initiated in fall 1969, is a program in which selected upperclassmen live with small groups of freshmen and act as adviser-counselor-friend to these groups. The purpose of the Freshman Sponsor Program is to facilitate the transition of freshmen students from high school to a collegiate environment. A tutor service is also available to Othrys Hall students.

The Student Residence Center maintains listings of apartments and houses for students and faculty who are interested in off-campus living. For students looking for roommates, a bulletin board with names of persons currently with an apartment to share is also provided. Further information regarding housing may be obtained from the Student Residence Center.

STUDENT HEALTH SERVICES

The purpose of the Student Health Center is to provide high quality medical service early in the course of an illness, to promote a healthful and sanitary environment on campus in which to live and study, to stimulate better health awareness among the students, and to educate them to the high standards of good therapeutic and preventive care.

The Student Health Center is in Room 553 of the Letters and Science Building and is open from 8 a.m. to 9 p.m. Monday through Thursday and from 8 a.m. to



Financial Aid

5 p.m. on Friday of each weekday that classes are in session. No staff is available when the Student Health Center is not open for off-campus calls. Special care and time are given to counseling of both emotional and physical problems. Physicians and nurses are continuously on duty during the day to care for emergencies and for the treatment of illnesses and injuries.

Among the services presently offered are the following:

1. Emergency care

2. Diagnosis and treatment of medical and surgical problems

3. Medical counseling

4. Psychiatric counseling and diagnosis

- Specialists' diagnostic services when directly referred by the Student Health Center.
- Follow-up care as may be recommended by the student's private physician within the scope of available facilities.

7. Electrocardiography

8. Physical therapy treatment

9. Routine immunizations

10. Laboratory and X-ray facilities

All fees for care in the Student Health Center, unless otherwise specifically stated, have been prepaid by the State of California and by the student's registration fee. Only registered undergraduates and graduates are eligible for all or any of the health services offered. *Emergency* service is available to everyone on campus.

Health, Accident, Hospital Insurance

All students are urged to carry this type of insurance. An excellent policy at a low premium is available to all students through the Associated Students' Business Office. Medical care when the Health Center is not open is an expense of the student. Such insurance will defray much of the cost of private medical care.

FINANCIAL AID

The Financial Aid Office provides personal guidance and assistance in financial matters to all students. Financial aid administers all scholarships, emergency loans, grants, National Defense Loans and the work-study programs.

Scholarships

A limited number of scholarships are available for outstanding students. Qualified students should obtain scholarship applications from the Financial Aid Office, and return by April 15 for the fall semester and December 15 for the spring semester. Scholarship applications are evaluated by the college Scholarship Committee. Awards are based on scholastic record, financial need and personal qualifications. Some scholarships are limited to students majoring in specified disciplines. Departmental recommendations weigh heavily in such cases.

Scholarships offered by California State College, Fullerton are made possible by interested organizations, business firms and individuals. Recent contributors to the

scholarship program include:

California Congress of Parents and Teachers, Inc.

CSCF Computer Center Scholarship Fund

California State Employees' Association (CSCF Chapter)

California State Firemen's Association

Delta Delta East Orange County Alumnae Chapter

Donna Cherry Memorial Scholarship

Edward Mittleman Memorial Scholarship

Fourth District, California Parents and Teachers Association

Fullerton Rotary Club

Gamma Phi Beta Sorority (Orange County Alumnae)

Los Amigos Club of Fullerton

Mr. and Mrs. Rodney Coulson (President's Award) Mu Phi Epsilon Scholarship Fund Orange County Engineering Council Scholarship Roberta King Maxwell Memorial Scholarship Fund Sadie Landon Memorial Music Scholarship Fund Sheryl Cummings Memorial Scholarship Fund

Loans

The generosity of organizations and individuals enables the college to offer short-term loans to students who meet unexpected financial difficulties of a temporary nature. Loans from these funds are made for various periods of time and to specified categories of students, according to college regulations and the wishes of the donors. The prime purpose of these loans is to meet educationally related expenses, and thus loans cannot be made for the purposes which are normally financed by private lending institutions. Application for a short-term loan may be made at any time during the school year.

The following is a listing of the loan funds available during the 1971-72 school

year:

Altrusa Club of Fullerton Loan Fund Associated Students Foreign Student Loan Fund Brea Rotary Club Loan Fund California Retired Teachers Association (Laura Settle Fund) CSCF Faculty Women's Club Loan Fund Gordon S. Fyfe Memorial Loan Fund Trust James Merrick Memorial Loan Fund Kenneth G. Ryhal Memorial Loan Fund Laura E. Imhoff Memorial Loan Fund Mary Virginia Lopez Memorial Loan Fund Michael R. Young Memorial Loan Fund Pan-Hellenic Club of Northern Orange County Loan Fund Robert E. Edwards Memorial Loan Fund Rossmoor Women's Club Loan Fund Rotary Club of Fullerton, Foreign Students Loan Fund Soroptimist International Club of Fullerton Loan Fund Stan Chase Memorial Loan Fund Trust-Davis Memorial Loan Fund Zonta Club of Fullerton Loan Fund

National Defense Student Loans

California State College, Fullerton joins with the federal government and the State of California in making long-term, low-interest loans available to students under the National Defense Education Act. Details and applications are available at the Financial Aid Office. Deadlines for submissions of applications are December 1 for the spring semester, April 1 for the summer sessions and June 1 for the fall semester.

All unmarried applicants under age 25 are required to file a Parents' Confidential Statement with the College Scholarship Service, Box 1025, Berkeley 94701, designating California State College, Fullerton as one of the recipients. The Parents' Confidential Statement assists the college to evaluate financial need, and, since it must be on hand before the loan application can be acted upon, early submission is advised. These forms can be obtained at most secondary schools or at the Financial Aid Office.

Federal Insured Loan Program

The college cooperates with the federal government and private lending institutions in making guaranteed loans available to full-time students. A loan recipient under this program must meet the following qualifications:

47

Vocational Rehabilitation Services

a. have an adjusted family income of less than \$15,000 per year

b. be a full-time student

c. be enrolled and in good standing at the college or accepted for enrollment.

The interest on these loans is 7 percent per annum on the unpaid balance. The United States Office of Education will pay all interest while the student is enrolled as a full-time student. Repayment ranges from 5 to 10 years following graduation, according to arrangements made with the lender. Applications and further information may be obtained from the Financial Aid Office.

College Work-Study Program

The college cooperates with the federal government in providing work-study jobs. Students who can establish "need eligibility" may work up to an average of 15 hours a week during the school year and up to 40 hours in the summer. Under this program there are on-campus opportunities such as library and instructional aides, clerks, computer center aides, and laboratory and research assistants. Off-campus jobs in nonprofit community agencies include teacher aides, recreation leaders, office trainees, and administrative interns. Interested students should consult the Financial Aid Office for eligibility requirements.

Educational Opportunity Grants

Federal funds have been made available to the College to use in making grants to undergraduate students who display "exceptional financial need" and who would otherwise be unable to continue their education. These grants range from \$200 to \$1,000 per year and are non-repayable. These grants are always awarded in conjunction with other forms of aid, and thus a Parents' Confidential Statement is required. Deadlines are the same as for the National Defense Student Loans.

Combined Intern-teaching and Master's Degree

A National Science Foundation supported program in biology was started in 1967. This program permits a limited number of qualified biology teachers to attend CSCF a half-day, each day, for two academic school years, in order to complete the regular master's degree in biology. These teachers receive their full salaries from their school districts. Concomitantly, an equal number of qualified graduate students also seeking a master's degree in biology are provided with stipends which permit them to continue their own graduate work, replace the teacher during these half days (as intern teachers), and complete the Standard Teaching Credential with specialization in secondary school teaching. Additional coursework in science education is required through consultation with the Department of Science and Mathematics Education.

VOCATIONAL REHABILITATION SERVICES

Students who have a physical, emotional or other disability which handicaps them vocationally may be eligible for the services of the State Department of Rehabilitation. These services include vocational counseling and guidance, training (with payment of costs such as books, fees and tuition) and job placement. Under certain circumstances students may also qualify for help with medical needs, living expenses and transportation.

Contact the State Department of Rehabilitation, 421 North Brookhurst Street,

Anaheim 92801. Telephone number (714) 635-5500.

INTERNATIONAL EDUCATION

Foreign Students

Special services for foreign students are coordinated by the international student counselor. These services include aid with problems concerning visa status and employment; orientation to academic procedures and requirements; advisement related to finances, social standards and customs; and to resources and opportunities offered by campus and community.

International Programs

Information concerning study opportunities for American students in foreign universities is available in the International Student Office. The international student counselor coordinates the selection of students applying for admission to one of the international programs operated by the California State Colleges in Colombia, Denmark, France, Germany, Ghana, Greece, India, Israel, Italy, Japan, Lebanon, Netherlands, Peru, Portugal, Spain, Sweden, Taiwan, United Kingdom and the U.S.S.R.

(See also International Programs on page 33.)

NEW EDUCATIONAL HORIZONS

New Educational Horizons, an Educational Opportunity Program, is an innovative educational program designed to provide comprehensive services for culturally different students. These services include the identification, selection, and counseling of students who, because of academic, ethnic, financial, or motivational barriers

would not normally acquire a college education.

NEH gives each of the students in its program much individual attention. It also uses knowledge of the culturally different student's distinctive patterns of social behavior, learning styles, and motivations and aspirations to assist students in realizing their full potentialities. Special tutorial and counseling activities are used so that NEH students will be more effective in their regular coursework at the college. New Educational Horizons also strives to develop esprit and a sense of community among its students through a variety of creative and identity-seeking activities.

Its students are encouraged not only to understand the background and strengths of their own particular ethnic groups but also to work together in support of central, universal human values. N E H also is keenly interested in advancing the understanding of different cultural groups on this campus and an awareness of their problems and potentialities. It has been active in supporting the ethnic studies departments and their courses. N E H also has worked effectively to bring college students and faculty and administrators into more frequent and meaningful contacts with students and community members from culturally different groups.

The service departments of New Educational Horizons include counseling, tutorial, faculty liaison, and research evaluation. Other components structured to assist students are special activities, recruitment, and supporting secretarial services. Working closely with the current 13 staff members, 10 student counselors and chairmen of the program are 20 elected representatives from the NE H Student

Voice Committee.

With 1970-71 its third year, N E H has grown from an initial enrollment of 53 students to 340. This rapid increase in size may convey some feeling for the dynamism and vitality of an innovative program that already has received recognition on the national as well as the state levels for its excellence and creativity.

PLACEMENT SERVICES

A centralized Placement Center is maintained with responsibilities for assisting students in finding both part-time and career employment. The college believes that it best serves both the student and employers only when its graduates have been placed in the professions for which they are prepared and trained.

Part-time Placement

Students wishing part-time jobs either on or off campus are eligible to receive the assistance of the office if they are taking three units or more. New students may receive service as soon as they have notice of their admission to the college. Secretarial skills are in great demand; but calls for schoolbus drivers, custodians, teacher aids, draftsmen, waiters, clerks, youth and recreation leaders, sitters, gar-

Judicial Affairs

deners, etc., are received. If students must augment their resources while going to school they are encouraged to limit their work hours to approximately 10 per week.

Business, Industry and Government Placement

The career placement interviewer assists graduating seniors and graduate students seeking career employment in business, industry, or public service through personal counseling in defining occupational preference, providing active job leads and

making up résumés.

In addition, the Placement Center makes arrangements for the on-campus recruitment program which brings the employers to the students. Also available through the center are applications for computerized job placement service operated by the College Placement Council. It is called GRAD (Graduate Résumé Accumulation and Distribution) and it is for the CSCF alumni seeking new professional opportunities.

Located in the Placement Center is the Career Library with an ever-expanding selection of resource materials on career opportunities. Federal, state, county, city and armed forces brochures and applications are also available for student access.

The Placement Center serves as liaison office for the Peace Corps, the military and VISTA offering counseling and information brochures to any interested student.

Educational Placement

Students in the teacher education, pupil personnel services, or administration curriculum of the college, who are in the final semester of a credential program, or who are in student teaching or directed field work, are eligible to register and receive the services of the Placement Center, chief of which is help in establishing a professional employment file. Such registrants are supplied information on openings and helped to establish their candidacies in the school districts and educational institutions.

Students who are not in the student teaching program but who are completing their credential program at the college are also eligible for service. This includes those about to receive their master's degree, who plan to apply for a community

college credential.

JUDICIAL AFFAIRS

The Office of Judicial Affairs is concerned with formulating and adjudicating student rights and grievances as well as clarifying diverse responsibilities which are essential to a vigorous, responsive and productive educational community. This purpose is accomplished through the coordination and implementation of the judicial procedures of the college related to student conduct and academic appeals; reviewing policies involving student rights and responsibilities as outlined in College Policy Statement 300.000, Statement of Students Rights and Responsibilities, discipline, advocacy and the like in order to recommend which benefit students and the college community as a whole.

Additionally, the Office of Judicial Affairs provides liaison and coordination in the alumni program as well as carrying out other special projects related to Student

Personnel Services.

ALUMNI AFFAIRS

The Alumni Association of California State College, Fullerton provides the opportunity for alumni to maintain contact with the college after graduation through various publications, information about continuing education programs as well as special social and service events at the college. Further information regarding membership and the programs can be obtained by calling the Office of Alumni Affairs or the Office of the Dean of Students.



ADMISSION, REGISTRATION, RECORDS AND REGULATIONS

ADMISSION TO THE COLLEGE

Requirements for admission to the California State Colleges are in accordance with Title 5, Chapter 5, Subchapter 2, of the California Administrative Code as amended by the Board of Trustees of the California State Colleges on November 24, 1970. A prospective applicant who is unsure of his status under the requirements is encouraged to consult his school or college counselor or the college Admissions Office.

ADMISSION AS A FIRST-TIME FRESHMAN

Applicants who have no college work after high school graduation will be considered for admission under the following provision. Except as noted, results of either the Scholastic Aptitude Test (SAT) or the American College Test (ACT) are required.

California high school graduates or legal residents for tuition purposes must have a grade-point average and total score on the SAT, or composite score on the ACT, which together provide an eligibility index placing them in the upper one-third of California high school graduates. For 1971–72 the minimum eligibility index is 3,072 using the SAT or 721 using the ACT.

High school graduates from other states or possessions who are nonresidents for tuition purposes must present an eligibility index which places them in the upper one-sixth of California high school graduates. For 1971–72, the minimum required eligibility index is 3,402 using the SAT or 826 using the ACT.

The eligibility index is computed either by multiplying the grade-point average by 800 and adding it to the total SAT score, or multiplying the grade-point average by 200 and adding it to 10 times the composite ACT score. Grade-point averages are based on work completed in the last three years of high school, exclusive of physical education and military science.

As an alternative, the following table may be used to determine the eligibility of graduates of California high schools (or California legal residents) for freshman admission to a California State College. This table is based on the eligibility index. Scores shown are the SAT Total and the ACT Composite. Students with a given GPA must present the corresponding test score. Conversely, students with a given ACT or SAT score must present the corresponding GPA in order to be eligible.

ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES
OR CALIFORNIA LEGAL RESIDENTS

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT
(—)	1	ompreted	2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168
3.19	11	520	2.78	19	848	2.37	27	1176
3.18	11	528	2.77	19	856	2.36	27	1184
3.17	11	536	2.76	19	864	2.35	28	1192
3.16	11	544	2.75	20	872	2.34	28	1200
3.15	12	552	2.74	20	880	2.33	28	1208
3.14	12	560	2.73	20	888	2.32	28	1216
3.13	12	568	2.72	20	896	2.31	28	1224
3.12	12	576	2.71	20	904	2.30	29	1232
3.11	12	584	2.70	21	912	2.29	29	1240
3.10	13	592	2.69	21	920	2.28	29	1248
3.09	13	600	2.68	21	928	2.27	29	1256
3.08	13	608	2.67	21	936	2.26	29	1264
3.07	13	616	2.66	21	944	2.25	30	1272
3.06	13	624	2.65	22	952	2.24	30	1280
3.05	14	632	2.64	22	960	2.23	30	1288
3.04	14	640	2.63	22	968	2.22	30	1296
3.03	14	648	2.62	22	976	2.21	30	1304
3.02	14	656	2.61	22	984	2.20	31	1312
3.01	14	664	2.60	23	992	2.19	31	1320
3.00	15	672	2.59	23	1000	2.18	31	1328
2.99	15	680	2.58	23	1008	2.17	31	1336
2.98	15	688	2.57	23	1016	2.16	31	1344
2.97	15	696	2.56	23	1024	2.15	32	1352
2.96	15	704	2.55	24	1032	2.14	32	1360
2.95	16	712	2.54	24	1040	2.13	32	1368
2.94	16	720.	2.53	24	1048	2.12	32	1376
2.93	16	728	2.52	24	1056	2.11	32	1384
2.92	16	736	2.51	24	1064	2.10	33	1392
2.91	16	744	2.50	25	1072	2.09	33	1400
2.90	17	752	2.49	25	1080	2.08	33	1408
2.89	17	760	2.48	25	1088	2.07	33	1416
2.88	17	768	2.47	25	1096	2.06	33	1424
2.87	17	776	2.46	25	1104	2.05	34	1432
2.86	17	784	2.45	26	1112	2.04	34	1440
2.85	18	792	2.44	26	1120	2.03	34	1448
2.84	18	800	2.43	26	1128	2.02	34	1456
2.83	18	808	2.42	26	1136	2.01	34	1464
2.82	18	816	2.41	26	1144	2.00	35	1472
2.81	18	824	2.40	27	1152	() 2		WITTEN ST

Graduates of High Schools in a Foreign Country

Applicants who are graduates of foreign high schools must have preparation equivalent to that required of eligible California high school graduates. The college will carefully review the previous record of all such applicants and only those with promise of academic success equivalent to that of eligible California high school graduates will be admitted. Such applicants are not required to take either the SAT or ACT. Ordinarily, the college does not accept foreign student applications directly from foreign countries.

Students earning grade-point averages above 3.20 are eligible for admission.
 Students earning grade-point averages below 2.0 are not eligible for admission.

Admission of Undergraduate Transfer Students

Non-High School Graduates

Applicants who are over 21 years of age, but have not graduated from high school, will be considered for admission only when preparation in all other ways is such that the college believes promise of academic success is equivalent to that of eligible California high school graduates.

High School Students

Students still enrolled in high school will be considered for enrollment in certain special courses and programs if recommended by their principal and if in the judgment of the college their preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given course or program and does not constitute the right to continued enrollment.

Recommended Preparation

Overall excellence of performance in high school subjects and test score evidence of academic potential provide the best bases for predicting success at California State College, Fullerton. While no specific course pattern is required, prospective students are strongly encouraged to include the following subjects in their preparation for work at Fullerton: college preparatory English; another language; mathematics; laboratory science; history or social science (or both); and study in speech, music, art and other subjects contributing to a well-rounded academic background. Students who anticipate intensive study in science are urged to take four years of mathematics and three years of foreign language in high school.

ADMISSION OF UNDERGRADUATE TRANSFER STUDENTS

Applicants for admission as undergraduate transfers will be considered for admission under one of the following provisions:

Applicants who have successfully completed 60 or more semester units, or the equivalent, are eligible for admission if they have achieved a grade point average of 2.0 (C) and were in good standing at the last college attended. Nonresident

applicants must have earned a grade point average of at least 2.4 (C+).

Applicants who have successfully completed fewer than 60 semester units, or the equivalent, are eligible for admission if they meet the above requirements and the current first-time freshman requirements. Applicants for admission as transfer students who have been continuously enrolled at a college since graduation from high school are eligible if they meet the first-time freshman requirements in effect at the time of their high school graduation. Either SAT or ACT test results are required of transfer applicants with fewer than 60 semester units.

Other Applicants

Applicants not admissible under one of the above provisions should enroll in a community college or other appropriate institution. Only under the most unusual circumstances, and then only by special action, will such applicants be permitted to enroll in the college.

REDIRECTION

It is not possible for the college to accommodate all qualified applicants. If an application is accepted and it later becomes evident that admission will not be possible, the application will, at the applicant's request, be forwarded to any other California State College where space is still available. No additional application fee then will be required.

ADMISSION OF GRADUATE STUDENTS

Unclassified Graduate Status

For admission with graduate standing as an unclassified graduate student, a student: must have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or must have completed equivalent academic preparation as determined by the appropriate college authorities; and additionally must satisfactorily meet the professional, personal, scholastic and other standards for graduate study (including qualifying examinations), that the appropriate college authorities may prescribe. Such admission does not, however, constitute acceptance to specific graduate degree or credential curricula.

Classified Graduate Status

A student who has been admitted to a California State College under the unclassified graduate requirement above may, upon application, be admitted to an authorized graduate degree or credential curriculum if he satisfactorily meets the professional, personal, scholastic, and other standards for admission to the graduate curriculum (including qualifying examinations), that the appropriate college au-

thorities may prescribe.

Note: All baccalaureate recipients at California State College, Fullerton who wish to enroll in graduate degree curricula following the receipt of their baccalaureate must file applications for admission and be approved for admission under the same criteria and procedures as new applicants. Students enrolled in five-year teacher education programs may continue into their fifth year without filing an application; however, such students must apply for and be admitted to a subsequent term if they later wish to pursue graduate degree programs. Enrollment in the fifth year of teacher education provides no guarantee of admission to graduate degree curricula.

ADMISSION OF STUDENTS FROM OTHER COUNTRIES

At the present, the college usually does not accept applicants directly from other countries. Only two categories of such students normally will be accepted:

(1) Those who have completed a two-year transfer program in a community college in the United States with a good academic record.

(2) Those who have completed a bachelor's degree in an accredited college in the United States and wish to enroll as graduate students.

Application procedures are the same as for other students, except that foreign language transcripts must be accompanied by certified English translations.

SUMMER SESSION STUDENTS

Although the quality of the program and most of the course offerings are the same as in the regular session, the college does not require an advance application or transcripts from students registering for credit courses in the summer session. However, students must be high school graduates and are expected to have satisfied the prerequisites for the courses in which they register. In addition, students are expected to file a request to register in the summer session. Admission to summer session does not grant admission to the regular session.

READMISSION OF FORMER STUDENTS

A student previously enrolled in the college, planning to return after an absence of one or more semesters, must file a new application for admission in accordance with procedures set forth below. The application fee is required if the student was not enrolled in either of the two semesters prior to the semester to which he is seeking admission or if he was enrolled in another institution during his absence from California State College, Fullerton. Unless a leave of absence was granted, catalog requirements at the time of readmission will apply.

General Procedures for Admission

Former Students in Good Standing

A student who left the college in good standing will be readmitted provided any academic work attempted elsewhere since the last attendance does not change his scholastic status. Transcripts of the record of any work attempted in the interim are required.

Former Students Who Were on Probation

A student on probation at the close of his last enrollment will be readmitted on probation provided he is otherwise eligible. The student must furnish transcripts of any college work taken during his absence.

Former Students Who Were Disqualified

The readmission of a previously disqualified student is by special action only. Ordinarily the college will consider an application for reinstatement only after the student has remained absent for a minimum of one year following disqualification and has fulfilled all recommended conditions. In every instance, readmission action is based on evidence, including transcripts of study completed elsewhere subsequent to disqualification, which in the judgment of the college warrants such action. If readmitted, the student is placed on scholastic probation.

GENERAL PROCEDURES FOR ADMISSION

Application Procedure for 1972–73

All prospective students must file a completed application for admission within the appropriate filing period. The completed application includes the application form, the California State College Residence Questionnaire, and the nonrefundable application fee of \$20. Each applicant may file only one application for any one term within the California State College system. The application should be obtained from, and filed with, the college of first choice. Alternative choice campuses may be listed on the application.

Application Schedule for 1972-73

	Initial Filing Period	Late Filing Period
Summer quarter 1972	Jan. 3–31, 1972	Feb. 1-April 28, 1972 (or earlier if quotas are filled)
Fall semester 1972	Nov. 1-30, 1971	Dec. 1-June 30, 1972 (or earlier if quotas are filled)
Fall quarter 1972	Nov. 1-30, 1971	Dec. 1-June 30, 1972 (or earlier if quotas are filled)
Winter quarter 1973	June 1-30, 1972	July 3-Oct. 13, 1972 (or earlier if quotas are filled)
Spring semester 1973	Aug. 1-31, 1972	Sept. 1-Nov. 30, 1972 (or earlier if quotas are filled)
Spring quarter 1973	Aug. 1–31, 1972	Sept. 1, 1972-Jan. 31, 1973 (or earlier if quotas are filled)

SEMESTER TERM STATE COLLEGES

SEMESTER	TERM STATE COLLEGES	QUARTER TE	RM STATE COLLEGES
Chico Fresno Fullerton Long Beach Sacramento		Bakersfield Dominguez Hills Hayward Humboldt Los Angeles	Pomona San Bernardino San Luis Obispo Stanislaus

Initial Filing Period—Space Reservations

All applications received during the initial filing period will receive equal consideration within the colleges' established enrollment categories and quotas, irrespective

of the time and date they are received.

Applicants who can be accommodated within enrollment quotas will receive confirmation of space reservation. Although the space reservation is not a statement of admission, it is a commitment on the part of the college to admit a student once eligibility has been determined. When the student receives notice of the space reservation, he should initiate action to have required transcripts of academic work sent to the state college where space has been reserved. The college will inform him of the number of copies of transcripts required, dates for submittal, and where they should be sent. The student should not request that transcripts be sent until requested to do so by the college where space has been reserved.

Applications of students who cannot be accommodated at their first choice college will automatically be forwarded to their second choice, and, if they cannot be

accommodated there, to their third choice, etc.

Each college has established procedures to consider qualified applicants who would be faced with an extreme hardship if not admitted. Prospective hardship petitioners should contact the concerned college regarding specific policies governing hardship admission.

Late Filing Period

Colleges not filling enrollment categories during the initial filing period will continue to accept applications during the late period until quotas are filled. Enrollment priorities within the late period will be granted in chronological order of application receipt by the colleges.

How to Apply

- Submit a completed application for admission, including the statement of residence, within the announced filing period accompanied by the required application fee.
- Request required transcripts of record of all previous scholastic work from each school or college attended. The transcripts must be sent by the issuing institution directly to:

Office of Admission and Records California State College, Fullerton 800 North State College Boulevard Fullerton, California 92631

Do not request transcripts sent until requested to do so by the college where space has been reserved for you.

The transcripts required are

—for undergraduates—

(a) the high school transcript, and

(b) a transcript from each college or university attended. Undergraduate applicants for a teaching credential must submit two copies of the transcript from each college or university attended;

—for graduates—

- (a) applicants for unclassified graduate standing with no degree or credential objective must submit a transcript from the college or university where the baccalaureate was earned.
- (b) applicants for a master's degree or teaching credential, or both, must submit two copies of the transcript from each college or university attended.

General Procedures for Admission

All students are advised that they should also have a complete set of college transcripts for their personal use at all times of advisement.

All transcripts must be received directly from the issuing institution to be considered official and cannot be returned to the student. Foreign language transcripts must be accompanied by certified English translations.

3. If required, submit the scores from either the Scholastic Aptitude Test or the American College Test. Scores are required for all undergradute applicants with fewer than 60 completed semester units of study (90 quarter units). Applicants to classified graduate curricula must submit the scores of any qualifying examinations required in their prospective program of study.

Statement of Residence

All applicants for admission to the College must file a Statement of Residence with their application. Students in continuous attendance during successive semesters are not required to complete this form after the initial filing unless there has been a change in their status. Students are held responsible for reporting any change in residence status to the Office of Admissions and Records. Any interruption in attendance requires a new Statement of Residence before re-entrance.

The determination of residence status is governed by laws found in the Government Code and the Education Code, and by court cases interpreting these statutes. For admission and tuition purposes "a resident student" means any person who has been a bona fide resident of the State of California for more than one year immediately preceding the opening of the semester. The residence determination date

is established by the Board of Trustees.

Normally, the legal residence of an unmarried minor is that of his parents. Exceptions to the rules on residency determination, or waivers of nonresident tuition, apply under certain conditions for exchange students, a child or spouse of an academic or administrative employee of the California State Colleges, a minor child of an active member of the Armed Forces stationed in California, and full-time teachers in the public schools holding a valid credential and pursuing instruction for required certification qualification for their current position.

Admission to Credential Programs

Admission to the college as a student does not constitute admission to the teaching credential program. Students who plan to work toward teaching credentials must apply to the School of Education following procedures available from the School of Education.

Cancellation of Admission

A student who is admitted to the college for a given semester but who does not register in the specified semester will have his admission canceled. The student must file a new application form when he again seeks admission and must follow the complete application procedure and meet the then current admission requirements.

Honors at Entrance

Honors at entrance are awarded to both freshman and transfer students who have demonstrated outstanding achievement in past academic work. For first-time freshmen with no previous college units earned, a grade-point average of 3.5 on a 5-point scale must be earned in the coursework considered for admission to the college. Students who have completed fewer than 60 college semester units of credit must meet the grade-point average criteria for first-time freshmen and must also have earned a 3.5 grade-point average on all this past college work attempted. Students who have completed 60 or more semester college units are eligible if a grade-point average of 3.5 is earned in all college work completed.

Undergraduate Entrance Testing Requirements

All undergraduate students, who have completed fewer than 60 semester or 90 quarter units of college work, are required to submit scores from either one of two national testing programs before eligibility for admission to the college can be determined. This requirement does not affect undergraduate students who have previously attended California State College, Fullerton and who have submitted ACT or SAT scores at the time of their first admission.

Registration forms for either test may be obtained from high school and community college counselors, California State College testing offices or directly from

the testing service at the address below:

SAT

College Entrance Examination Board Box 1025 Berkeley, California 94701

Dates Test Given:

July 10, 1971 Oct. 9, 1971

Nov. 6, 1971 Dec. 4, 1971

Jan. 8, 1972 Mar. 4, 1972

Apr. 15, 1972 July 8, 1972 ACT

American College Testing Program P.O. Box 414

Iowa City, Iowa 52240

Dates Test Given: July 17, 1971 Oct. 16, 1971

Dec. 11, 1971 Feb. 12, 1972

Apr. 22, 1972 July 15, 1972

To take one of these tests:

- 1. Obtain a registration form and a Student Information Bulletin from your high school or community college counselor, from one of the addresses above, or from the College Testing Center. Select a test center near your home from the list printed in the Bulletin.
- Send the completed registration form and the appropriate test fee to the proper address. Do not send to the Fullerton campus.
- 3. Have your ACT or SAT scores reported to the Testing Center, California State College, Fullerton. These scores should be received before the deadline for application. Use the appropriate code number for score reports.

If you have already taken either the ACT or SAT send \$1 to the appropriate testing agency and request that your scores be reported to the Testing Center. Use appropriate code number when requesting such reports, and provide complete information concerning testing date, test center, name and address changes, etc. These test scores when included on high school or college transcripts are not acceptable.

Health Requirements for Admission

Undergraduate and graduate students must, upon admission, submit completed health history and physical examination forms. In addition, evidence of a negative chest X-ray taken within 12 months before their registration must be presented. A tuberculin skin test may be obtained in lieu of an X-ray. Evidence of a smallpox vaccination within the past 10 years is also required.

vaccination within the past 10 years is also required.

The following services may be completed at the Student Health Center for a charge of \$1: urinalysis, hemotocrit, tuberculin skin test and smallpox vaccination.

All health requirements must be satisfactorily completed before the student will be allowed to complete registration. It is urged that the health clearance be obtained before the date of registration as this will conserve the student's registration time.

EVALUATIONS OF ACADEMIC RECORDS

Evaluation of Transfer Credits

The Office of Admissions will evaluate previous college work in terms of its relationship to the requirements of California State College, Fullerton. All degree candidates will be issued a credit summary during the first semester of attendance which serves as a basis for determining specific remaining requirements for the

student's specific objectives.

Once issued to a student, the evaluation remains valid as long as the student enrolls at the date specified, pursues the objective specified, and remains in continuous attendance. The student will not be held to additional graduation requirements unless such requirements become mandatory as a result of changes in the California Administrative Code or the California Education Code. If the student does not remain in continuous attendance and has not applied for and been granted a formal leave of absence, the evaluation issued upon readmission will specify the remaining requirements for the student's specific objectives.

In view of the foregoing regulations, the student should notify the Office of Admissions immediately if he changes the objective specified in his evaluation. While the evaluation for a student remains valid, the student is held responsible for complying with all changes in regulations and procedures which may appear

in subsequent catalogs.

Acceptance of Credit

Credit for work completed at accredited institutions will be accepted toward the satisfaction of degree and credential requirements at the college within limitations of residence requirements, community college transfer maximums, and course applicability.

General Policy

Credit for coursework completed at accredited institutions will be accepted toward the satisfaction of degree and credential requirements at the college within limitations of residence requirements and community college transfer maximums.

Transfer of Credit From a Community College

Upper division credit is not allowed for courses taken in a community college. Credential credit is not allowed for courses in professional education taken in a community college. This does not invalidate credit for preprofessional courses taken at a community college, such as introduction to education, art or design, arithmetic, or music for classroom teachers. After a student has completed 70 units of college credit, whether at a community college or a four-year institution, or at both, no further community college units will be accepted for unit credit.

Credit for Military Service

Students who have been in active military service for at least a year may be granted six units of undergraduate credit. Courses taken in service schools may be given credit on the basis of an evaluation which determines that they are of college level. Any credit for military experience will be given only upon request. Records verifying such experience must be filed with the Office of Admissions.

Credit for Extension and Correspondence Courses

The maximum amount of credit through correspondence and extension courses which may be allowed toward the bachelor's degree is 24 units, of which not more than 12 may be transferred from another college or university.

Credit by Advanced Placement

Students who have successfully completed courses in the advanced placement program (defined as receiving a score of 3, 4 or 5) shall be granted credit toward graduation, advanced placement in the college's sequence courses, and credit for curriculum requirements.

Credit by Examination

Students may be granted credit for a course toward graduation and to meet curriculum requirements by the satisfactory completion of a challenge examination in that course requirement. The examinations are to be comprehensive and administered by the department in which the course is offered. Well in advance of the challenge examination the student will secure written approval of his major adviser and the chairman of the department in which the course is offered. Upon the successful completion of the examination, the notation on the permanent record of the student will be made as "CR" for the course. "CR" is to indicate credit for the course with a passing grade. Upon failure of the examination, the notation on the permanent record of the student will be made as "No CR" for the course. Credit by examination may not be used to fulfill the minimum residence requirements. The challenge examination for any course may be attempted only once. A maximum of 30 credits can be earned by challenge examination, including those achieved by advanced placement.

College Level Examination Program

Operating under a one-year interim policy, California State College, Fullerton may grant credit and advanced standing based upon examination results from the College Level Examination Program of the College Entrance Examination Board using as minimum standards:

General Examinations

- That the student achieve a score at or above the 50th percentile, college sophomore norms.
- That no unit credit be granted for any test in the general examinations, but that six units of general education requirements be waived for each test completed with the appropriate score.

Subject Examinations

- 1. That the student submit a score at or above the 50th percentile of those in the norming group who earned a mark of C or better.
- That equivalency to California State College, Fullerton courses be determined by the appropriate academic department in conjunction with the Office of Admissions and Records.
- That college credit shall have not been previously earned in the courses in question.

In no case will credit so awarded count towards residence credit.

REGISTRATION

Orientation

Various opportunities are provided for new students to obtain information relating to academic programs, student services and activities, and other aspects of college life. Information about specific programs will be published separately.

Registration

Class Schedule: A complete listing of courses offered will be found in the class schedule published prior to the start of each semester. This publication, which may be purchased in the Titan Bookstore for a nominal charge, also states detailed information pertaining to the semester including class enrollment and fee payment procedures.

It is important that each student familiarize himself not only with the academic policies stated in the catalog but also with the requirements and procedures in the class schedule as both are used in the selection of classes for the semester.

Course Selection: California State College, Fullerton, believes its students have the intelligence and capability to plan their schedules each semester and to make a selection among available sections of a course. Such matters are the responsibility of the student and permit him to develop an individualized class schedule for each semester to meet the student's academic program requirements as well as his own unique personal requirements (study, work, etc.).

Course selection should be based on an adviser-approved formal academic program, course descriptions in the current catalog (including course prerequisites), and courses offered as listed in the semester class schedule. With this information each student should be able to determine courses needed, courses available, and eligibility for enrolling in them. The study list resulting from such an appraisal forms the basis for completing the official program card which is used in registration.

Registration: Registration is made up of two steps—class enrollment and fee payment. At registration, every student is required to file a program card with the Office of the Registrar. The filing of a program card by the student and its acceptance by the college obligates the student to perform the designated work to the best of his ability. All undergraduates are urged to declare a major at the earliest practicable time and not later than at the time they have completed 60 units of college work.

It is emphasized that registration does not become official until fees have been paid.

Computerized Records System

The student personnel records system, including the registration process, is computer based. This means that records and reports are produced from an information data file maintained in the college Computer Center. It is a fact of life in a large institution such as Fullerton that use of the computer is essential. Thus, there is a requirement for data cards, code numbers, student file numbers and for meeting precise criteria for data input and stringent deadlines. All of this introduces an element of the impersonal in the student records system. Despite these conditions, every effort is made to provide courteous, efficient and personalized service to students and the entire college community. To assist in providing this service, students are urged to be extremely careful and accurate in preparing data cards, especially the official program card and change of program card, for entry into the information file. Accurate input of information will assure each student of error-free records.

Late Registration

The last day to register late each semester will be announced in the class schedule. Late registrants will find themselves handicapped in arranging their programs and must pay a \$5 late registration fee in addition to regular fees.

Changes in Program

Each student is responsible for the program of courses he lists when he registers. Changes may not be made thereafter without the filing of a change of program (add-drop) form in the Office of the Registrar. All requests for courses to be added or dropped, and other changes, are processed without a fee charge during the announced schedule adjustment period (normally the first week of instruction). After the announced period there is a \$1 fee charged for change of program involving dropped classes. Classes may be added *only* during the schedule adjustment period.

Failure to file an official change of program request in the case of dropped classes may result in a penalty mark being recorded. Through the fourth week of instruction in the semester no record of enrollment is made of dropped classes. After four weeks students are expected to complete all courses in which they are enrolled. However, for reasons of ill health or reasons involving other serious and unforeseen problems, the student may drop a class or classes and receive a W (Withdrawal) or F (Failure) by obtaining the signature of the professor(s) involved and filing the change with the registrar on the form provided.

No classes may be dropped during the last four weeks of instruction, although complete withdrawal from college is still possible (See page 70).

Concurrent Enrollment

A student enrolled at the college may enroll concurrently for additional courses at another institution only with advance written approval from the student's academic adviser on official forms filed in the Office of the Registrar. Permission will not be granted when the study load in the proposed combined program exceeds the units authorized at this college.

Auditors

A properly qualified student may enroll in classes as an auditor. The student must meet the regular college admission requirements and must pay the same fees as other students. An auditor may not change his registration to obtain credit after the last date to add courses to the study list. An auditor is not permitted to take examinations in the course.

Handicapped Students

Students physically handicapped who require assistance should contact the Office of the Registrar prior to the announced semester registration period so that special arrangements for them can be made.

VETERANS

California State College, Fullerton is approved by the Bureau of Readjustment Education, State Department of Education, to offer programs to veterans seeking benefits under state and federal legislation. All students seeking veterans' benefits must have a degree or credential objective.

Applications for benefits should be filed well in advance of the semester in which the veteran plans to use these benefits in order to have the authorization at the time of registration.

SELECTIVE SERVICE

Male students requiring certification of their student status may request the Office of Admissions and Records to submit the appropriate forms to their draft board.

Undergraduate students shall normally be enrolled for 12 units a semester to be considered full time. Graduate students enrolled for nine units of study may be considered full time provided at least three units are 500-level courses.

All students are advised that by enrolling each consecutive term at the minimum level to qualify for full-time certification they may not achieve the degree and credential programs within the time limit allowed by the Selective Service System.

RESERVE OFFICERS' TRAINING CORPS

California State College, Fullerton does not have a Reserve Officers' Training Corps program. However, a two-year program is available to eligible male students through cooperation with the University of Southern California where an Air Force ROTC program is conducted. For complete information, write the Professor of Aerospace Studies, University of Southern California, Los Angeles 90007.

FEE SCHEDULE, 1971-72

Tuition is not charged to legal residents of California. The following are the fees and expenses currently assessed.

Application fee (nonrefundable) . Payable by check or money order at time of ap	plying	\$20
Materials and Service fee: Fewer than 4 units	Maderika mbakan	Semester \$39
At least 4 but fewer than 8 units. At least 8 but fewer than 12 units. 12 or more units.		\$44 \$49 \$59
	Fewer than 8 units	8 units or more
Facilities fee Associated Students fee College Union fee	\$ 3 \$10 \$ 4	\$ 3 \$10 \$ 8

Nonresidents

Nonresident tuition fee (in addition to fees required of resident students, except for enrollment in extension or summer session)

1) or more units, maximum	2222
Fewer than 15 units, per unit	\$37
	4.
Per academic year	\$1,110

Foreign-Visa Students

Nonresident foreign-visa students (in addition to fees required of resident students)

15 or more	units, maximum .	DE ANGELES AND EN AND A TEST OF RECEIPT	\$300
Fewer than	15 units, per unit		\$20

The rate of tuition required of each nonresident student who:

-is a citizen and resident of a foreign country; and

—is enrolled in the California State Colleges during the fall term of the 1970–71 college year; or who has been accepted for admission on or before November 24, 1970, to a California State College for any subsequent semester or quarter to the 1970–71 college year; and

-remains in continuous attendance as a full-time student at the California State

Colleges, making normal progress toward a degree objective; and

—has not been awarded a baccalaureate degree or graduate degree from the California State Colleges subsequent to the commencement of the fall term of

the 1970-71 academic year;

shall be at the rate of \$600 per academic year per full-time student for all academic terms commencing prior to the 1974-75 fiscal year, and shall be at the rate of tuition charged nonresident students who are not citizens and residents of a foreign country for all academic terms commencing during the 1974-75 fiscal year and thereafter.

Commencing with the 1971 winter quarter at colleges on quarter system yearround operations, and with the 1971 spring semester at all other colleges, and for each term thereafter, the rate of tuition for each nonresident student who is a citizen and resident of a foreign country and who does not satisfy all of the foregoing provisions of the preceding paragraph shall be at the rate of tuition charged nonresident students who are not citizens and residents of a foreign country.

Summer Session	
Per summer semester unit	\$24
Associated Students fee	\$ 3
College Union fee	\$ 4
Extension Fees	
Per Unit or Fraction of Unit	to \$38
Other Fees or Charges	
Late registration fee (in addition to other fees listed above)	
Check returned from bank for any cause	\$2
Change of program fee	\$1
Transcript fee (no charge for first copy)	\$1
Failure to meet administrative required appointment or time limit	\$2
Auditors pay the same fees as others.	
Fees are subject to change by the Trustees of the California State Colleges	r mont

Refund of Fees

Upon withdrawal from college, the materials and service fee may be refunded if written application for refund, on forms provided by the college, is submitted to the registrar not later than 14 days following the day of the term that instruction begins; provided that the amount of \$10 shall be retained to cover the cost of registration. Late registration fees, change of program fees and application fees are not refundable.

The entire fee may be refunded if a student is unable to continue his registration because of a college regulation or because of compulsory military service. Application for refund under such circumstances may be made at any time before the date when the student received any academic credit for the courses for which he is registered.

No refund of fees will be given if the unit load of the student is reduced to a

lower material and service fee category.

Parking Fees

Semester pass (nonreserved spaces):	
Regular and limited students	\$13.00
Coin operated gate, per admission	.25
Summer session, each six-week period	5.00

Typical Student Expenses

Typical school year budgets for California residents living in the college residence hall will be approximately \$2,110. Budgets for students living at home or making other housing arrangements will vary widely. It is estimated that, including an \$800 yearly allowance for room and board, the cost will approximate \$1,600. Nonresident students must also allow for nonresident tuition.

RECORDS AND REGULATIONS

ENROLLMENT DEFINITIONS AND REGULATIONS

Unit of Credit

Each college semester unit represents three hours of college work per week for one semester. Courses are of three types:

- (1) Lecture—one hour in class plus two hours of study.
- (2) Activity—two hours of class plus one hour of study.
- (3) Laboratory-three hours in class.

Some courses may combine two or more of these types.

Classification in College

Undergraduate students who have completed 0-291/2 semester units of work are classified as freshmen, 30-591/2 semester units as sophomores, 60-891/2 semester units as juniors, and 90 or more as seniors.

Maximum Number of Course Units

Undergraduate students attending college on a full-time basis are normally permitted to enroll in a maximum of 16 units each semester (except for engineering students who may enroll for a maximum of 17 units). The minimum fulltime load is 12 units.

A student whose academic record justifies a study list in excess of the normal may request to be allowed to carry extra units. Request forms may be obtained from the Office of the Registrar and are submitted during the first week of instruction. In general, only students with superior academic records are allowed to enroll for more than the maximum unit load. In addition, the need to carry an overload must be established. Factors such as time spent in employment or commuting, the nature of the academic program, extracurricular activities and the student's health should be considered in planning a study load. Students who are employed or have outside responsibilities are advised to reduce their program of study.

The minimum full-time program of study for graduate students is defined in the

"Graduate Policies and Procedures" section of this catalog.

Initial Class Meeting

It is important that students attend the first meeting of a class. In closed classes students who are absent from the first meeting without notification of the instructor or departmental office within 24 hours may be denied admission to the class. Instructors are privileged to deny admission to absentees in order to admit any persons on waiting lists in their places. Students who are denied admission to class must file a drop request card with the Office of Admissions and Records.

Undergraduate Students Taking Graduate Level Courses

Graduate level (500) courses are organized primarily for graduate students. Undergraduate students may be permitted to enroll in a graduate level (500) course if:

- (a) They are within 9 units of completion of graduation requirements, or
- (b) They are exceptionally qualified seniors whose undergraduate work in the related field or fields has been of 3.5 grade-point average or better, and whose cumulative overall grade-point average is at least 3.25.

Such cases shall require specific approval by the instructor and also chairman of the department in which the course is offered and by the chairman of the student's major department.

Graduate level (500) courses taken under (a) above may be applied to a gradu-

ate program

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Graduate level (500) courses taken under (b) above may be applied to the undergraduate program only.

GRADING POLICIES

Grading System	
Satisfactory grade	Grade-point value
A	4
B	3
C	2
CR	None assigned
Unsatisfactory grade	
D	1
F	0
NR (No Report)	0
Special grade	
E (Incomplete)	0
AU (Auditor) (no credit toward degree or credential)	None assigned
W (Passing withdrawal)	None assigned
NC (No credit)	None assigned

With the exception of the grades of E, AU, W, CR and NC, all units attempted are computed in the student's grade-point average.

Incomplete Work

A grade of E may be given only when, in the opinion of the instructor, a student cannot complete a course during the semester of enrollment for reasons beyond bis control. Such reasons are assumed to include: illness of the student, or of members of his immediate family, extraordinary financial problems, loss of outside position, and other such exigencies. In assigning a grade of E, the instructor will file with his department a statement of the specific requirements for completion of coursework. Such requirements will not include or necessitate retaking the course. This statement will also include a provisional grade indicating the quality of work completed at that time, and the instructor's designation of the time limit allowed for completion of course requirements. Upon later completion of the course requirements, or upon expiration of the time limits for completion of course requirements, the instructor shall initiate a change to a grade of A, B, C, D, CR, NC or F. Instructional departments will determine procedures for completion of course requirements and assigning grades for such completed coursework, in those special circumstances where the instructor is no longer available.

Credit/No Credit

Each student shall be permitted to select courses in subjects outside of the major requirements on a Credit/No Credit basis. For purposes of Credit/No Credit, the phrase "major requirements" can be taken to include core plus concentration (or option) requirements in departments using such terms, and professional course requirements in teacher education curricula.

Grading Policies

The term "Credit" signifies that the student's performance in the course was such that he was awarded full credit toward his degree objective without comment as to the quality level of achievement and without further qualification. "No Credit" signifies that the student attempted the course but that his performance did not warrant credit toward his objective. The level of work for which a "Credit" grade will be given will be determined by the individual professor for each class. However, the level of performance required for a CR grade will be no higher than that now required for satisfactory work. At the beginning of each class, the professor will thoroughly explain the amount and level of work required for a CR grade.

The student must declare his intention to take a course on a Credit/No Credit basis when he registers. Under no circumstances will he be permitted to change his declaration after the first week of classes in any given semester. Any student attempting a course on a Credit/No Credit basis must meet the prerequisites for

that course.

The policy of Credit/No Credit applies to undergraduate students, non-objective graduate students, and to classified graduate students for courses not included in

the approved study plan.

When a student changes his major field of study to one where he has completed courses on a credit basis, such lower division courses shall be included in his major requirements. Upper division courses may be included at the option of the department.

Grade Reports to Students

A report of the final grades assigned in classes is sent to each student at the end of each semester. Many students also leave self-addressed post cards for teachers of specific courses to send them slightly faster evaluations of their work.

Communication Skills

Skills in written, oral, and gestural communication are important tools and marks of well educated men and women. Great competencies in both articulation and advocacy are arts well-worth attaining for living effective, full and civic lives and for achieving excellence in vocational careers.

A variety of experiences at college provide opportunities to practice and develop communications skills. The acts of written and oral expression also serve to

consolidate, synthesize, and develop thinking and personality.

Students will be required to demonstrate, in all classes where written expression is appropriate, their ability to write clearly and correctly about the materials of the course. Ability of a student to demonstrate writing proficiency shall be used as a part of the final grade determination in any course.

Examinations

Final examinations, if required by the instructor, will be given at times scheduled by the college. Once established, the final examination schedule may not be changed unless approved by the dean of the school. No makeup final examination will be given except for reason of illness or other verified emergencies.

Grade-Point Averages; Repetition of Courses

Grade-point averages are calculated by dividing grade points earned by units attempted. Work attempted at all institutions, including California State College, Fullerton, is included in all-college calculations. Work attempted at other institutions will not be included in CSCF-only averages.

When any course is repeated both grades are considered in computing gradepoint averages. However, successful repetition of a course originally passed carries

no additional unit credit towards a degree or credential.

TRANSCRIPTS

Official transcripts of courses taken at the college are issued only with the written permission of the student concerned. Partial transcripts are not issued. A student is entitled to one free transcript; a fee of \$1 for each additional transcript issued must be received before the record can be forwarded.

Normally transcripts are available within three working days, except at the end of the semester when the student should allow about 10 days after the last day of the semester.

Transcripts from other institutions, which have been presented for admission or evaluation, become a part of the student's permanent academic file and are not returned or copied for distribution. Students desiring transcripts covering work attempted elsewhere should request them from the institutions concerned.

CONTINUOUS RESIDENCY REGULATIONS

Good Standing

"Good standing" indicates that a student is eligible to continue and is free from financial obligation to the college. A student under academic disqualification, disciplinary suspension or disciplinary expulsion is not eligible to receive a statement of "good standing" on transcripts issued by the college or on other documents.

Choice of Catalog Regulations for Meeting Degree Requirements

A student remaining in continuous attendance in regular sessions and continuing on in the same curriculum in any state college, in any of the California community colleges or in any combination of California community colleges and California State Colleges, may, for purposes of meeting graduation requirements, elect to meet the graduation requirements of the California State College from which he will graduate in effect either at the time of his entering the curriculum or at the time of his graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

Continuous Enrollment for Graduate Students

A graduate student with a degree objective is expected to maintain continuous enrollment in the college (summer sessions and extension excluded) until completion of the degree. If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he may request permission to register in Graduate Studies 700, a Credit/No Credit course with one unit of credit, which does not require class attendance. A student may not register in Graduate Studies 700 for more than two consecutive semesters.

A graduate student who fails to register has severed his connection with the college.

Leave of Absence

A student may petition for a leave of absence and if approved may upon his return continue under the catalog requirements that applied to his enrollment prior to the absence. Except in the case of required military service a leave of absence may be granted for a maximum of one year. Illness and compulsory military service are the only routinely approved reasons for a leave of absence. Students should realize that an approved leave of absence does not reserve a place for them in the college.

Student Honors

Complete Withdrawal From College

Students who wish to withdraw from the college must complete a withdrawal-from-college card. See section on refund of fees for possible refunds. No student may withdraw after the date shown on the college calendar as the last day of instruction. Complete withdrawal from college is accomplished by following the procedures for dropping classes (see Change of Program) in addition to procedures for withdrawal.

STUDENT HONORS

Dean's List

Academic achievement is recognized with the publication each semester of a list of students whose grade-point average for the previous term has been 3.5 or better. Students are notified in writing by the dean of students when they have earned this distinction. Eligibility is based on a minimum of 12 units of coursework.

Honors at Graduation

Honors at graduation have been defined by the Faculty Council in three classifications:

With	honors	GPA	3.5
With	high honors	GPA	3.85
With	highest honors	GPA	4.0

PROBATION AND DISQUALIFICATION

Academic Probation

Academic probation serves to identify and to bring to the attention of appropriate college authorities a student who is experiencing academic difficulties.

A student shall be placed upon academic probation if either his cumulative gradepoint average or his grade-point average at California State College, Fullerton falls below 2.0 (grade of C on five-point scale). The student shall be advised of probation status promptly and, except in unusual instances, before the end of the first week of instruction of the next consecutive enrollment period.

A student shall be removed from the probation list and restored to clear standing when he earns a cumulative grade-point average of 2.0 (C) in all academic work attempted, and in all such work attempted at California State College, Fullerton.

Academic Disqualification

A student on academic probation shall be subject to academic disqualification if:

- As a lower division student (fewer than 60 semester hours of college work completed) he falls 15 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.
- As a junior (60 to 89½ semester hours of college work completed) he falls 9 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.
- 3. As a senior (90 or more semester hours of college work completed) he falls 6 or more grade points below a 2.0 (C) average on all college units attempted or in all units attempted at this college.

A graduate student (unclassified or classified) shall be disqualified if he falls below a 2.0 (C) average in all units attempted at this college as a graduate student.

Student Conduct

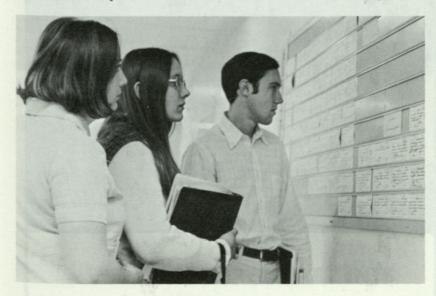
The college properly assumes that all students are in attendance to secure a sound education and that they will conduct themselves as mature citizens of the campus community. Compliance with all regulations of the college is therefore expected. If, however, on any occasion a student or an organization is alleged to have compromised accepted college policies or standards, appropriate judiciary procedures shall be initiated through the established college judicial process. Every effort will be made to encourage and support the development of self-discipline and control by students and student organizations. The dean of students, aided by all members of the faculty and advised by the Student Affairs Committee of the faculty, is responsible to the President of the college for the behavior of students in their relationships to the college. The President in turn is responsible to the Chancellor and the Trustees of the California State Colleges who themselves are governed by specific laws of the State of California.

Students have the right to appeal certain disciplinary actions taken by appropriate college authorities. Regulations governing original hearings and appeal rights and procedures have been carefully detailed to provide maximum protection to both the individual charged and the college community. Information about the operation of the judicial system involving student discipline may be obtained in the Office of the Associate Dean of Students, Judicial Affairs.

RIGHT OF PETITION

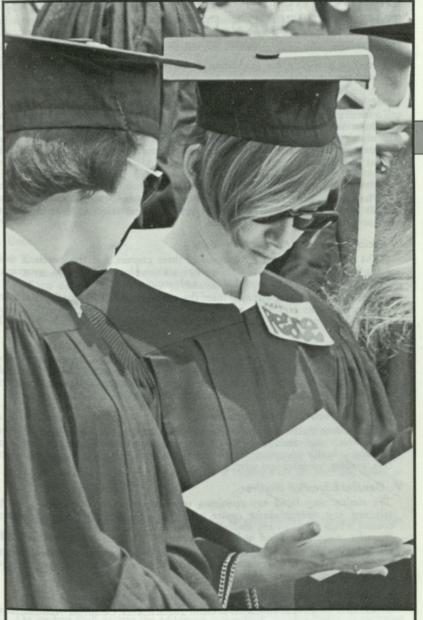
Students may petition for review of certain college academic regulations when unusual circumstances exist. It should be noted, however, that academic regulations when they are contained in Title 5, California Administrative Code, are not subject for petition.

Petition forms are available in the Office of Admissions and Records and must first be reviewed and signed by the student's adviser. Action will then be taken on the petition and the student will be notified of this decision. A copy of the action will also be placed in the student's folder in the Office of the Registrar.



RIGHT OF ACADEMIC APPEAL

The student who believes he has been graded capriciously or treated with obvious prejudice by faculty or administrators may initiate steps for an academic appeal. In all cases the student should first make an effort to resolve the issue by consulting the faculty or administrator concerned. If the issue cannot be resolved the student should follow the procedures outlined in the Students Rights and Responsibilities document (CPS300), or consult with the dean of students or associate dean of students, judicial affairs.



DEGREE REQUIREMENTS

GRADUATION REQUIREMENTS FOR THE BACHELOR'S DEGREE

A student is eligible for graduation if he is in good standing and fulfills the following requirements:

1. General Education

To be eligible for a baccalaureate degree from California State College, Fullerton, the student shall have completed a minimum of 45 semester units of general education courses selected in accordance with the pattern designated below. Such courses may be lower division courses or upper division courses for which the student qualifies.

1. Natural Sciences Minimum: nine units

The student shall select a minimum of two courses, one from each of two fields which shall include the following: biological sciences, chemistry, earth sciences, physics and physical science.

II. Social Sciences Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: anthropology, economics, geography, history, political science, psychology and sociology.

Note: Of the courses taken to meet the requirements in United States History, Constitution, state and local government (California Administrative Code, Section 40404), a maximum of three units may be applied for credit in Section II.

III. Arts—Humanities Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: art, drama, language (English, intermediate or advanced courses in foreign languages), literature (American, comparative, English, foreign), music, philosophy and speech.

IV. Basic Subjects Minimum: nine units

The student shall select a minimum of three courses, one from each of three fields which shall include the following: computer science, elementary foreign languages, health education, mathematics, oral communication, physical education, reading, statistics and writing.

V. General Education Electives

The student may fulfill any remaining units required for general education by selecting any undergraduate course offered by the college for credit except courses which apply to the student's major or credential program. Transfer students certified under provisions of California Administrative Code,

Transfer students certified under provisions of California Administrative Code, Title V, as having met the 40-unit minimum general education requirements will be required to complete five additional units in general education selected from two or more sections, I - V above.

2. Statutory Requirements in American Institutions and Values

In addition to general education-breadth requirements California Administrative Code, Section 40404, states that for graduation the student is required "to demonstrate competence in the Constitution of the United States, and in American History including the study of American institutions and ideals, and of the principles of state and local government established under the Constitution of this State."

To meet this requirement, the student may select from the following alternatives:

1) pass a comprehensive examination in these fields, 2) pass Political Science 100 and a course in U. S. history, 3) pass a combination of Political Science 300 and History 170A or 170B. Coursework completed to satisfy Section 40404 may be applied in the social sciences area of general education to a maximum of three units.

3. Electives

After fulfilling the requirements in general education, American institutions and values, and a specific major (and possibly a minor), each student is free to choose the rest of the courses needed to complete the 124 semester units required for graduation. Different majors vary considerably in both the number of units they require in their own and related fields. They also vary considerably in the amount of latitude or choice they permit in selecting courses to satisfy the major requirement. The general education requirement encourages great freedom of choice within the broad categories of the natural sciences, social sciences, arts and humanities, and basic subjects. Students at the college use their electives to broaden their general educations, deepen some aspect of their specialties, pursue work in related fields, and satisfy curiosities and enthusiasms for particular subjects or areas of interest.

4. Units

(a) Total units

A minimum of 124 semester units is required for graduation with a bachelor of arts degree. The Bachelor of Science in Engineering requires a minimum of 136 semester units.

(b) Upper division units

Completion of a minimum of 40 units of upper division credit is required.

(c) Resident units

Completion of a minimum of 24 semester units in residence is required. At least one-half of these units must be completed among the last 20 semester units counted toward the degree. Extension credit, or credit by examination, may not be used to fulfill the minimum residence requirement.

5. Scholarship

- (a) A grade-point average of 2.0 or better is required on all units attempted, including those accepted by transfer from another institution.
- (b) A grade-point average of 2.0 or better is required on all units in the major.
- (c) A grade-point average of 2.0 or better is required on all units attempted at California State College, Fullerton.

6. Major

Completion of all requirements for a major as specified by appropriate college authority is required.

7. Multiple Majors and Second Baccalaureate Degrees

Second Majors

Within the units required for the baccalaureate it is possible for a student to complete the requirements for more than one major within a degree program when the additional major is within the degree program of the first major. The student shall declare the additional major with the appropriate department not later than the beginning of the student's final year of study. The completion of additional majors will be noted at the time of graduation by appropriate entries on the academic record and on the commencement program.

Bachelor's Degree

Second Baccalaureate

- (a) First degree completed elsewhere, second at CSCF Students seeking a bachelor's degree from CSCF after having received a baccalaureate from another institution may qualify for graduation with the approval and recommendation of the faculty upon completion of the following:
 - (1) general education requirements
 - (2) all requirements in the major field of study
 - (3) residence and scholarship requirements

(b) Two baccalaureates from CSCF

A student completing a baccalaureate program at CSCF will have completed the general education, residence, and scholarship requirements. With the approval and recommendation of the faculty, he may qualify for a second baccalaureate under the following circumstances:

- The second field of study is offered in a different program (e.g. bachelor of arts to bachelor of science)
- (2) At least 24 units are earned in residence beyond the requirements for the first degree
- (3) All requirements of the major are fulfilled

Units included in second baccalaureate programs may not apply to graduate degrees or credential programs.

8. Minor

Completion of a minor field is not required for the baccalaureate degree at this time.

9. Graduation Requirement Check

A candidate for graduation should file an application for a graduation requirement check in the Office of the Registrar during registration for the semester prior to the semester in which he expects to graduate (please refer to the current schedule of class for the deadlines applied to requesting and returning graduation checks). A senior should have completed at least 100 units (including the current work in progress) and a substantial portion of his major requirements before requesting a graduation check. If the candidate does not complete the requirements in the semester indicated, he must file a change of graduation date in the Office of the Registrar. The original graduation check is valid as long as a student is in continuous attendance and is completing the major under which the graduation check was requested.

10. Approval and Recommendation by the Faculty of the College

THE PROGRAM OF MASTER'S DEGREES

Master's degree programs offered at California State College, Fullerton are listed on page 92 and are described in the appropriate section of this catalog under "College Curricula." Program descriptions and additional information are contained in the *Graduate Bulletin*, copies of which are available in the Office of Admissions and the Graduate Office.

Master's degrees in other areas are under consideration and will be announced

when approved.

STANDARDS FOR GRADUATE STUDY

Graduate study deals with more complex ideas and demands more sophisticated techniques, searching analysis, and creative thinking than undergraduate study. The research required is extensive in both primary and secondary sources and the quality of writing expected is high. The student is advised to consider these factors when deciding upon the amount of coursework to be undertaken during any one semester.

GENERAL REQUIREMENTS FOR THE MASTER'S DEGREE

General requirements for the master's degree include a study plan consisting of a minimum of 30 semester units of approved upper division or graduate coursework completed with a 3.0 (B) minimum grade-point average. The coursework should normally be completed within five years (see "Time Limit for Completion"). For specific requirements of particular programs, please see the descriptions elsewhere in this catalog.

Of the minimum of 30 units of approved coursework:

- 1. No less than 24 shall be completed in residence.
- 2. No less than 15 shall be in graduate (500-level) courses.
- 3. No more than a total of six shall be in extension and/or transfer credit.
- 4. No more than six shall be allowed for a thesis, if a thesis is required.
- 5. Six shall be in related fields outside the department or concentration.

Some type of final evaluation, near the end of the student's work toward his master's degree, is required. It may be a thesis, a project, a comprehensive examination, or any combination of these.

Each student's program for a master's degree (including his eligibility, classified status, candidacy, and award of the degree) must be approved by an adviser and/or coordinator, school or department committee, and the dean of graduate studies.

GRADUATE REGULATIONS

The following are in addition to other policies and procedures applying to both undergraduates and graduates described elsewhere in this catalog and in the appropriate class schedule. Requirements of individual programs are shown in the appropriate sections of this catalog. Students are advised also to consult the Graduate Bulletin for detailed instructions concerning steps in the master's degree program. It is the student's responsibility to initiate the requests for classified status, advancement to candidacy, and for a completion review for award of the master's degree (graduation check) in the Graduate Office at the appropriate times. The deadline for requesting the completion review appears in the official college calendar for each semester.

Master's Degree

Since all policies and procedures are subject to change, by appropriate college authority, students should consult class schedules and other official announcements for possible revision of policies and procedures stated herein.

Admission With Graduate Standing: Unclassified

For admission with graduate standing as an unclassified graduate student, a student shall have completed a four-year college course and hold an acceptable baccalaureate degree from an accredited institution; or shall have completed equivalent academic preparation as determined by the appropriate college authorities; and must satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as the appropriate college authorities may prescribe.

Admission to a state college with graduate standing does not constitute admission

to graduate degree curricula.

Admission to Graduate Degree Curricula: Classified

A student who has been admitted to a state college in unclassified graduate status may, upon application, be admitted to an authorized graduate degree curriculum of the college as a classified graduate student if he satisfactorily meets the professional, personal, scholastic, and other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate college authorities may prescribe. Only those applicants who show promise of success and fitness will be admitted to graduate degree curricula, and only those who continue to demonstrate a satisfactory level of scholastic competence and fitness, as determined by the appropriate college authorities, shall be eligible to continue in such curricula. Students whose performance in a graduate degree curriculum is judged to be unsatisfactory by the authorities of the college may be required to withdraw from all graduate degree curricula offered by the college.

Note: All baccalaureate recipients at California State College, Fullerton who wish to enroll in graduate degree curricula in the next term following the receipt of their baccalaureate must file applications for admission and be approved for admission under the same criteria and procedures as new applicants. Students enrolled in five-year teacher education programs may continue into their fifth year without filing an application; however, such students must apply for and be admitted to a subsequent term if they later wish to pursue graduate degree programs. Enrollment in the fifth year of teacher education provides no guarantee of admission to

graduate degree curricula.

Advancement to Candidacy

A student who has been classified (as above) may, upon application, be advanced to candidacy, following the satisfactory completion of a minimum of 12 units of coursework on the approved study plan. A minimum grade-point average of 3,0 in all coursework on the study plan is required; other scholastic, professional and personal standards, the passing of examinations, and other qualifications, may be prescribed.

Completion of Requirements

The degree is awarded upon the satisfactory completion of all general and specific requirements for the particular program, the recommendation of the appropriate school or department adviser and/or coordinator and committee, and the approval of the dean of graduate studies and the faculty of the college.

Admission From Nonaccredited Schools

A student who is a graduate of a nonaccredited school must apply for admission as an undergraduate to complete requirements for a bachelor's degree from this institution. However, once admitted, a student in this category who gives evidence of unusual promise and superior background may petition the school or department

concerned for reclassification as an unclassified graduate student, and if the petition is granted he may then proceed in the graduate program.

Election of Curriculum Requirements

A student remaining in continuous attendance in regular sessions and continuing in the same curriculum may elect to meet the degree requirements in effect either at the time of his classification or at the time of the completion of degree requirements, except that substitutions for discontinued courses may be authorized or required by the proper college authorities.

Continuous Enrollment

A graduate student with a graduate degree objective is expected to maintain continuous enrollment during regular semesters of the college (summer sessions excluded) until award of the degree. Enrollment in extension classes does not con-

stitute enrollment in the college.

A graduate student who fails to register has severed his connection with the college and with the school or department of his graduate degree program. If he wishes to resume his studies, he must reapply for admission to the college and his degree program. The policy is designed to eliminate the need for readmission to the college, provide opportunity for continuous use of college facilities, including the Library, and assure the development of an integrated program, adequately supervised, and effectively terminated within the time limitations allowed by regulations.

Students who may have completed all coursework, but who may not have satisfactorily completed a comprehensive examination or other requirement, must

maintain continuous enrollment.

If a student pursuing an advanced degree finds it impossible to attend during a certain semester, and is not eligible for a leave of absence, as detailed elsewhere in this catalog, he may request permission to register in Graduate Studies 700, a credit/no credit course with no units of credit, which does not require class attendance. Registration in Graduate Studies 700 will normally be restricted to graduate students who have been classified or who are in a prescribed prerequisite program for a specific degree. A student may not register in Graduate Studies 700 for a third consecutive semester.

Applicability of Courses Taken During Summer Sessions

California State College, Fullerton normally conducts two six-week summer sessions. Appropriate courses taken during the summer sessions may be applied to a graduate degree program, providing the courses are approved *in advance* by the proper college authorities. Since the funding of graduate work during the summer months does not include the necessary advisement and supervision, appropriate advisers and committees may not be available.

It should be noted that enrollment in a summer session does not constitute admission to the college (matriculation) and that any student desiring a master's degree must be admitted to a regular semester (fall or spring) and is expected to be enrolled continuously until award of the degree (see "Continuous Enrollment").

Grade-Point Average Standards

The required GPA for admission to a master's degree program (classified status) varies with the school or department. Consult school or department descriptions of programs elsewhere in this catalog and in the Graduate Bulletin. However, a student must have earned a 3.0 average in all postbaccalaureate coursework taken at this college plus such transfer courses as are applied to his study plan. Exception to this rule may be granted by a school or department in response to a student petition only if it is evident that courses whose grades are not to be computed in the GPA are inapplicable and inappropriate to the degree program.

Master's Degree

The 30 semester units of approved coursework required for the degree must be completed with a 3.0 (B) minimum grade-point average. If a student approaches the completion of the degree requirements with less than a 3.0 average, he may request a change in his study plan to add no more than six units of coursework in order to achieve at least a 3.0 average (see "Changes in Study Plan," as follows). If a student's average at any time falls below such a level that it cannot be raised to a 3.0 within the prescribed limits of coursework, he has in effect withdrawn himself from his master's program.

Tests Required for Admission to Master's Degree Programs

Many of the master's degree programs require the student to take certain tests, usually some part of the Graduate Record Examination, before he can be considered for classified status. See program descriptions in this catalog for the types of tests required. The GRE tests are nationally administered and are given only a few times a year on specified dates. A current list of these dates is available at the Office of Counseling and Testing, school and department offices. The student must make written application for the tests on a form available at the above office which must be submitted to the particular testing service office by the applicable deadline. Since test results are measured against those of students who normally take the tests in their senior year and since they are required before the student can be admitted to a degree program (that is, become a classified student), the taking of the tests should not be deferred.

Limitation on Preclassification Coursework

No more than nine units of postgraduate work taken at California State College, Fullerton prior to classified status may be applied to a student's master's degree study plan. Any acceptable transfer work is excluded from the nine units permitted. Students who receive postgraduate credit for courses taken during their final semester as a senior may accumulate as many as 12 units.

Inapplicable Courses

Courses numbered 100 to 299 and in the 700 series cannot be applied toward a master's degree. Courses numbered 300 to 399 do not give graduate credit unless included on an approved graduate study plan.

Courses taken to meet baccalaureate degree requirements, or postgraduate coursework taken to satisfy quantitative or qualitative deficiencies cannot be applied

toward a master's degree.

Workshop, extension, and institute coursework offered either by this college or other colleges or universities is not normally acceptable as part of a master's degree study plan. A student who desires to utilize such coursework must obtain approval from the adviser and/or coordinator and committee in the school or department offering the particular degree, and from the dean of graduate studies. When such coursework has been taken elsewhere, the student should provide evidence that the college or university concerned would consider such coursework acceptable toward a comparable graduate degree. Any such courses offered by other institutions, but which are not acceptable for their own graduate degrees, may not be accepted by this college for a graduate degree.

Also see the sections following on "CR, S, or P Grades," and "Time Limit for

Completion."

CR, S, or P Grades

Any course taken at this college with a grade of CR, P, S, or similar, cannot be

accepted on a master's degree study plan.

A course taken at another college or university with a grade of CR, P, S, or similar, cannot be accepted on a master's degree study plan unless such a course with such a grade is acceptable at that college or university for a graduate degree.

Declassification

Graduate students in classified graduate status may be declassified, upon the recommendation of the school and/or department, reverting to unclassified status, when one or more of the following conditions exist:

- 1. The student's request for declassification is approved by his graduate committee.
- 2. The student fails to maintain the grade-point average required in the master's degree program.
- 3. The student's professional performance is judged to be unsatisfactory by other criteria established by the school or department.
 - 4. The student fails to petition for an extension of the time limit.

Time Limit for Completion

All coursework on the master's degree study plan should normally be completed within five years, except that, upon petition to the Graduate Office, two additional years may be allowed. The college, at its option, may further extend the time for students who pass a comprehensive examination in the relevant course. Requests to take such comprehensive examination should be made to school or department graduate studies committees.

When an examination is administered, a report of successful completion will be made to the dean of graduate studies. The grade received on the original course will be used on the master's degree study plan, rather than the CR grade used for challenge examinations.

The following shows the dates of expiration of courses according to the fiveyear limitation:

Courses taken in	Will expire in
1966	1971
1967	1972
1968	1973
1969	1974
1970	1975
1971	1976
1972	1977

The five-year period is computed as being the time between the actual date of completion of the earliest course and the month the degree is granted.

Changes in Study Plan

The student must complete the courses shown on his approved study plan on file in the Graduate Office and in the school or department office with at least a 3.0 (B) GPA. If a student wishes to make a change in his study plan, he should file the appropriate form (copies available in the Graduate Office, schools and departments) in the school or department of his master's degree prior to registration. The recommendation for a change must be signed by his adviser. No course for which a grade has been assigned may be removed from a study plan.

Minimum Full-Time Load

Ordinarily, nine units of coursework a semester shall constitute a minimum full-time program for graduate students, provided at least three units are in 500-level or higher courses.

Master's Degree

Maximum Unit Load

Twelve units is considered to be a maximum load for graduate students, but, on the approval of an adviser, in exceptional cases, a student may take more.

Theses and Projects

When a thesis is required, the approved original copy, in the approved binding, and a microfilm of it, must be deposited in the college Library. An abstract, of not more than 150 words, must accompany the thesis, and will be published in the journal, Master's Abstracts. Arrangements for the binding, microfilming and publication of the abstract must be completed by the last day of classes of the semester in which the degree is to be granted and are made through the college Foundation Office. The current fee for microfilming, publication of the abstract, and the archival copy is \$18 (for theses with more than 240 pages there is an additional charge). The fee for binding is \$7.50.

When a project is required, it will be filed with the school or department of the degree program. Some record of the project, or the project itself, is preserved in the school or department and, when appropriate, in the college Library. When the school or department recommends, a project or its written record may be treated as a thesis.

The thesis and where appropriate the project must conform in matters of style and format to the rules in "Thesis Procedures and Regulations," duplicated instructions available in school or department offices, the Graduate Office, and the Library Reference Room. Since adherence to these rules must be checked and approved, and valuable assistance can be given with problems associated with illustrations, etc., students are advised to consult the Library adviser (in the Reference Room) well in advance of the final typing of the thesis. In addition, schools and departments have adopted particular form books and/or style sheets, which are to be followed in matters of documentation and bibliography (consult Graduate Office, or appropriate school or department).

It is the student's responsibility to become acquainted with the appropriate rules and regulations and to make all necessary arrangements for the typing of the thesis, including instruction of the typist, if other than himself. Adequate time should be allowed for reading and criticism by the adviser, the committee members, and the librarian, for revisions, as needed, and for completion of the final edition of the thesis, including approvals.

The deadline for submission of the completed thesis to the adviser and committee is six weeks in advance of the last day of classes of the semester in which the student hopes to be awarded the degree, unless other arrangements are made with the school or department. The deadline for depositing the approved original copy of the thesis in the college Foundation Office and making the arrangements for binding, microfilming and publication of the abstract is the last day of classes of the semester in which the degree is to be awarded. If a student's program requires a thesis, or if the project has been determined to be regarded as a thesis, the master's degree cannot be awarded unless the notification that the student has completed this final step is received by the dean of graduate studies.

Graduate Assistantships, Fellowships, and Financial Aids

There are a limited number of appointments as graduate assistants available to outstanding graduate students who are working in graduate degree programs. These may pay up to \$1,250 per semester. If interested, consult the chairman of the department in which degree study is being taken. Teaching fellowships are not currently available.

The State of California each year awards a certain number of graduate fellowships (payment of fees only). Qualified students who are residents of California may make application for these through the Financial Aid Office.

For information concerning other financial aids and part-time placement services,

see pages 46 and 49, respectively.

International Study

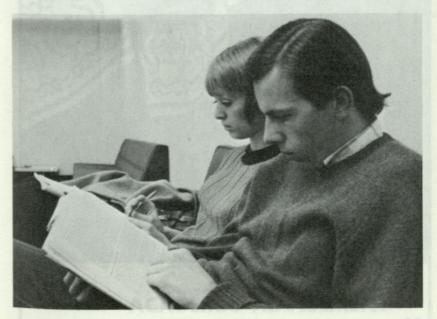
The college participates in the California State Colleges' program of study abroad. Under this program, limited studies taken at designated foreign universities, when arranged in advance, may be applied toward the requirements of a degree awarded by Cal State Fullerton. It is important that plans be completed several months before starting such a program. For details consult the foreign student adviser.

Second Master's Degree

A graduate student desiring to work for a second master's degree at Cal State Fullerton must request permission from the school or department concerned and the Graduate Council to declare an objective of a second master's degree program (in unclassified status). If the request is granted the student must as a minimum satisfy all prerequisites and all requirements of the new degree program. Approval of classified status for the second degree will be given only after the first degree has been awarded.

Postgraduate Credit for Seniors

Students in the last semester of their senior year may petition on a form available in the Office of Admissions and Records to receive postgraduate credit for such current course work as is not required for the bachelor's degree. The applicability of such coursework to a master's degree program must be determined by separate action by the appropriate school or department. Usually the student must have attained graduate standing and applied for classified status before this latter action is accomplished.



Master's Degree

Enrollment in 500-Level Courses by Seniors

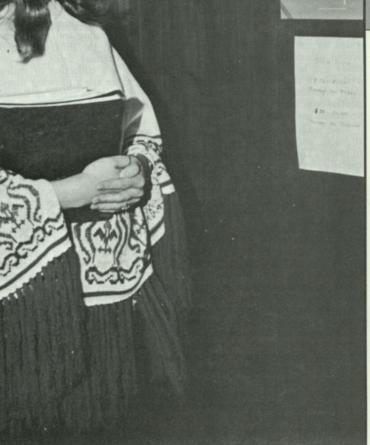
A senior may take a 500-level course if he is within nine units of completion of graduation requirements and with the specific approval of the chairman of the department or dean of the school in which the course is offered and by the chairman or dean of the student's major department or school. Postgraduate credit and applicability of such coursework to a master's degree is determined as indicated under "Postgraduate Credit for Seniors."

A senior who is not within nine units of graduation may take a 500-level course only if in addition to the approval of the appropriate chairmen or deans he also has a minimum GPA of 3.5 in the field or fields of his intended graduate program and of 3.25 overall. Under these circumstances, postgraduate credit may not be

given for a 500-level course.



ADV



ACADEMIC ADVISEMENT

ACADEMIC ADVISEMENT

Choosing an Undergraduate Major

Every student is expected to choose a major or field of concentration by the beginning of the junior year. The majors currently offered at this college are described in the next sections of this catalog. Most major requirements allow students the freedom to take a number of courses in fields other than in their majors or closely related fields.

Lower division students who are uncertain about their primary vocational goals or educational interests may, and probably should, enroll as undeclared majors. Then, and during their freshman and sophomore years, such students should explore the possibilities open to them that will meet their interests and potentialities. To help students in their searching and selecting, the college has available a number of useful resources: an Office of Academic Advisement; orientation programs that are given every year; a variety of counseling and testing services provided by the Counseling and Testing Centers; and the different department and school offices for information and advice on particular fields, their programs of study and later work opportunities. There also is a collection of college catalogs available in the college Library. Additionally, there are a growing number of student organizations on the campus that are organized in terms of disciplinary and professional interests. The Placement Center also has much useful information on vocations and specific work opportunities.

Most students have general ideas about some subjects in which they might like to major, and almost all students are aware of the fields in which they do not wish to major. The task of selecting a major (and often a minor or other complementary specialization) then becomes one of crystallizing these earlier ideas on the basis of experiences in specific courses, discussions with other students and faculty, etc. Before commitment to a specific major, students should be sure that they have not rejected a field of study because of some wrong preconceptions or inaccurate information. Students also should not overlook interests and potentialities that they previously may not have discovered. The option of taking a limited number of courses on a Credit/No Credit basis often will be helpful in these pursuits.

Students, however, must be very careful to plan freshman or sophmore programs which will permit their entering or taking advanced courses in fields they think they may want to be their majors. Such students should check such major requirements as mathematics, chemistry, foreign language, etc. which must be taken before the junior year or perhaps even begun during the freshman year. Students anticipating graduate or professional study in a certain field should exercise special care in planning their undergraduate programs, and they should seek faculty counseling in the fields concerned. Such choices do not have to be made during the first two years, and may or may not be made during the second two. However, careful and advance examination of the possibilities of graduate or professional study often will be helpful to students who have fairly clear ideas of the educational and vocational objectives they would like to seek.

Students also should be careful about concentrating so heavily in a particular field that they cannot change majors to a different field should they wish to do so. A growing number of our students come to the campus with no clear idea of the field in which they would like to major. Such students, and others whose goals and objectives have not yet firmly crystallized, will have opportunities to take courses in various fields and make up their minds during their lower division work. They should, however, take full advantage of the opportunities that exist on and outside the campus to learn more about available fields of study and occupational fields.

Planning a Major Program

When students have selected a major field, they should study carefully all the requirements which are specified in the catalog under their chosen degree program. Then they should make a tentative semester by semester plan for completing the requirements, with careful regard for courses which are prerequisite to others. They should discuss this plan with their major advisers who will be able to help them with any problems.

In addition to courses in the major department, related courses in other fields

In addition to courses in the major department, related courses in other fields and supporting courses in basic skills also may be required. These, too, should be included in the tentative semester by semester plan. These auxiliary require-

ments are described in the degree program for each major.

Some departments require placement tests prior to admission to classes. The time and place for such tests is given in the class schedule, often before registration. Students should purchase a copy of the class schedule at the bookstore well before registration for classes begins.

Choosing General Education Courses and Electives

In keeping with the liberal arts tradition, the college requires its graduates to have sampled a variety of disciplines as part of their general education. The broad categories of general education courses are presented in the catalog section on "Graduation Requirements for the Bachelor's Degree". Through these requirements students are introduced to the worlds of values, ideas, and beauty, to mankind and his problems, to the natural world in which man lives, and to skills essential for scholarship.

To many students the selection of general education courses and electives poses many difficult choices. With well over a thousand courses to choose from and over forty fields of specialization that can be sampled, some demanding decisions must be made. Various aids or resources are available. Among these are: the catalog and the class schedule with their descriptions of regular and new and experimental courses; informal consultations with other students and faculty members; A Guide to Courses and Faculty at Cal State Fullerton, published by the Associated Students; and advisers in the Office of Academic Advisement.

The reasons for selecting particular general education courses and electives include: the need to explore potential major or vocational interests; curiosity about or enthusiasm for a particular subject; the desire to clarify thinking and values on problems and issues of personal and social significance; the urges to broaden and synthesize work in a specialization with perspectives and skills from other fields; and desires to deepen understanding and improve skills for such central human activities as personal relationships, family and community life, citizenship activities, and leisure pursuits. Other kinds of reasons include the interests in experiencing the varying approaches and teaching methods of different, talented teachers or of sharing learning experiences with friends.

Change of Major, Degree or Credential Objective

A student who wishes to change his major, degree, or credential objective must obtain the required form in the Office of Admissions and Records. Such a change is not official until the form has been signed and filed in the Registrar's Office. A student should be aware that he will be responsible for the requirements for the new choice of major, degree, or credential that are in the catalog in effect at the time he files a change.

ACADEMIC ADVISEMENT

Each undergraduate student is assigned an adviser who will help the student plan an academic program. The adviser is a resource person who can provide valuable information and suggestions and who can assist the student to find the

Preprofessional Programs

most desirable ways to meet the requirements for graduation and for his major or credential. Although the adviser is consulted, the final choice of courses and the responsibility for the program lies with the student himself.

Academic program advisers are able to offer better advice when consulted if students come prepared with lists of courses they already have taken and their own copies of transcripts from colleges previously attended (if students are new to California State College, Fullerton).

An undergraduate student who has declared a major will be assigned an adviser by the chairman of his major department. Those seeking a credential will also be assigned a professional adviser by the School of Education. Students who have not yet decided upon a major (undeclared majors), or who are not seeking a degree will be advised in the Office of Academic Advisement.

Graduate students will be assigned a major adviser in their fields of specialization, except in education where all will have a professional adviser from the School of Education. Those students seeking a credential for teaching in secondary schools will be assigned both a professional and a major adviser.

In the School of Engineering, each student will be assigned an adviser by the dean of the school and is expected to meet with that adviser at least once a semester. He is required to file an adviser-approved program plan before the beginning of the second semester of the junior year.

PREPROFESSIONAL PROGRAMS

The academic programs of the college provide appropriate preparation for graduate work in a variety of fields. Students who have made tentative decisions about institutions in which they may wish to pursue graduate work should consult the catalogs of those graduate schools as they plan their undergraduate programs. Students planning to undertake graduate work should supplement their undergraduate programs by anticipating language requirements at major graduate schools and by intensive work in areas of special relevance to their intended gradaute work. Professional schools in many universities either require or recommend that applicants complete four-year programs for admission. Although the professional schools do not always require a bachelor's degree, they generally encourage basic preparation and a broad general education leading to that degree before beginning specialization.

The college offers a number of professional programs through the master's degree. These include programs in the fine arts, business administration, communications, education, engineering, health education and physical education and recreation, library sicence, public administration, and speech pathology-audiology. Students interested in preparing for professional careers in these areas, either here or in other educational institutions, are encouraged to seek assistance and guidance from our faculty members in these fields.

Paramedical Health Sciences

(Dental Technican, Nursing, Occupational Therapy, Optometry, Physical Therapy, Podiatry)

Although no specific bachelor's or master's degree program is available in the professional areas of dental technician, nursing, occupational therapy, optometry, physical therapy, podiatry, academic preparatory courses for these professions are given in the science departments. Students should register their specific interest preference in either the Office of the Academic Vice President or the Department offices in Biology or Chemistry.

Prelegal Preparation

Students planning to enter law school may elect any one of several majors. In general, the better law schools require that an applicant hold a baccalaureate degree. Although there is no uniform pre-legal course of study or specific college major required, it is recommended that prospective law students prepare themselves in such fields as English, American history, economics, political science (particularly the history and development of English and American political institutions) and such undergraduate courses as judicial process, administrative law, constitutional law and international law, philosophy (particularly ethics and logic), business administration, anthropology, psychology, and sociology.

The major chosen and many of the courses selected should demand a high level of performance in reading difficult material, understanding abstract and complex concepts, and speaking and writing clearly and persuasively. Pre-legal students are advised to take the minimum program to meet the requirements of their chosen major and courses beyond the introductory survey level in other selected fields. A distribution of course sequences among the social sciences, the natural sciences and the humanities is desirable. Students with interests in becoming lawyers should contact the Pre-law Society. Some faculty members in the School of Business Administration and Economics and the Department of Political Science also can

provide advice and assistance.

Premedical-Predental Committee

Student counseling with respect to preprofessional programs in medicine, dentistry and other health sciences as well as professional school admission problems are the concern of this committee. (See membership listing, page 443.) All students wishing to prepare for dental or medical careers should register in the Office of the Academic Vice President or either the department offices in Biology or Chem-

Premedical Preparation

Medical schools are currently seeking applicants with as broad and liberal an educational experience as possible. They recommend that applicants pursue collegiate major programs which are of vital interest to the student. However, all medical schools require a basic minimal training in the natural sciences and the premedicalpredental committee upon review of these admission requirements recommends the following coursework which satisfies this minimum training:

one year of English

three semesters of biology (including embryology and genetics) one year of general chemistry one year of organic chemistry with laboratory one year of college physics with laboratory

one year of calculus

Most medical school applicants complete a baccalaureate degree program prior to beginning their medical training. However, applications to medical school are processed normally at the termination of the sixth semester (junior year). The medical college admission test, required of all medical school applicants, is taken normally during the spring of the sixth semester (junior year). The prospective medical school applicant should therefore normally plan to complete the above natural science minimal requirements by the end of the junior year. Thus he should begin general chemistry in his freshman year in order to satisfy the prerequisite requirements for the advanced courses in chemistry.

Since medical school admissions are limited, the best prepared applicants are likely to have an advantage. Many medical schools recommend certain courses in the natural sciences in addition to those listed above in the minimal requirements.

Preprofessional Programs

The prospective applicant is advised to consult the catalogs of those medical schools to which he anticipates applying for additional recommended preparatory subjects. He is further advised to consult a member of the Pre-medical Committee for assistance in planning his total collegiate program and to obtain copies of optimal programs from the chairman of the Pre-medical Committee.

Medical Technology

An emphasis in medical technology is available under the M.A. in Biology with a medical biology concentration. Students electing this must take as part of their course requirements Biological Science 514 A-E (6 units). These courses are given at an approved cooperating hospital laboratory school. For further details consult Dr. Calvin A. Davenport, Department of Biological Science.

Social Welfare

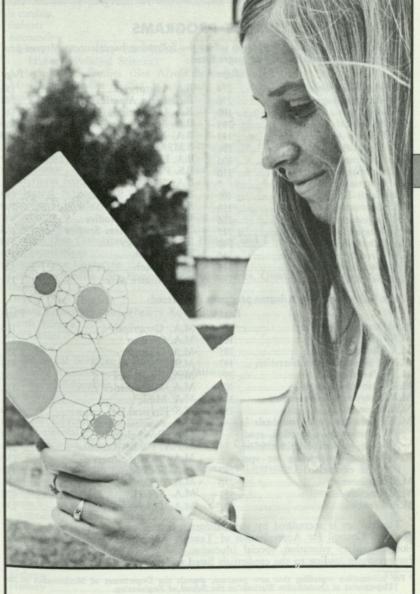
Full preprofessional training usually consists of two years of graduate training leading to the degree of Master of Social Welfare. Students who plan to seek employment in social work or social welfare after the completion of their B.A. degrees should prepare themselves in the fields of psychology (particularly child and adolescent psychology), sociology, anthropology, political science, economics, and research methods in social science.

Students who intend to enter a professional school following undergraduate training should learn about the specific prerequisites for admission to the graduate school of their choice. Ordinarily a major in one of the social sciences, and some additional work in at least several other social sciences, is recommended.

Pretheological

Students who might be interested in pursuing careers in counseling, social work, the teaching of religion, and the ministry and associated fields should take some courses in religion, psychology, anthropology, sociology, philosophy, education, communications, history, English, speech communications, and a foreign language. Students desiring assistance and counseling regarding advanced work or professional careers may seek help from the faculty in the Department of Religious Studies.





COLLEGE CURRICULA

COLLEGE CURRICULA

DEGREE PROGRAMS

California State College, Fullerton offers the following baccalaureate degree programs which are described on the pages listed:

	Page		Page
B.A. American Studies	274	B.A. History	351
B.A. Anthropology		B.A. Latin American Studies	263
B.A. Art		B.A. Linguistics	
B.A. Biological Science	284	B.A. Mathematics	369
B.A. Business Administration		B.A. Music	120
B.A. Chemistry		B.M. Music	121
B.A. Communications		B.A. Philosophy	
B.A. Comparative Literature	316	B.S. Physical Education	
B.S. Computer Science		B.A. Physics	381
B.A. Earth Science	409	B.A. Political Science	
B.A. Economics		B.A. Psychology	399
B.S. Engineering	226	B.A. Religious Studies	
B.A. English		B.A. Russian Area Studies	
B.A. Ethnic Studies	248	B.A. Sociology	
B.A. French		B.A. Spanish	
B.A. Geography	345	B.A. Speech	
B.A. German	330	B.A. Theatre Arts	131

The following master's degree programs are offered:

I	Page		Page
M.A. Anthropology	277	M.A. Geography	346
M.A. Art	103	M.A. German	331
M.A. Biology	285	M.A. History	351
M.B.A. Business Administration	147	M.S. Library Science	
M.A. Chemistry	299	M.A. Linguistics	362
M.A. Communications	309	M.A. Mathematics	371
M.A. Comparative Literature	316	M.A. Music	
M.A. Economics	151	M.S. Physical Education	190
M.S. Education (with emphasis in		M.A. Political Science	389
elementary education, read-		M.A. Psychology	
ing, school administration,		M.P.A. Public Administration _	390
school counseling or spe-		M.A. Social Sciences	268
cial education)		M.A. Sociology	418
M.S. Engineering		M.A. Spanish	331
M.A. English		M.A. Speech	428
M.A. French		M.A. Theatre Arts	

The college is accredited by the California State Board of Education and the National Council for Accreditation of Teacher Education (in elementary education, secondary education, special education, and speech and hearing audiology) for programs leading to the credentials listed under Teacher Education.

^{*} For information regarding this new program, consult the Department of Mathematics or the Department of Quantitative Methods or the School of Engineering.

SUBJECT FINDER

The listing of degree programs does not include all of the fields or subject matter areas in which some courses currently are being offered at the college. Additionally, different colleges differ in the names they assign to degrees, curricular programs, and the academic units offering courses. The following "subject finder" lists some of the most commonly used terms for fields with information on where courses or programs on these subjects can be located at Fullerton and in this catalog.

Subject	Page
Accounting	153
African Studies (See Afro-Ethnic Studies, Anthropology, Geography,	
History, Political Science)	
Afro-American Studies (See Afro-Ethnic Studies)	248
Afro-Ethnic Studies	248
American Studies	274
Anthropology	276
Art	
Art Education	114
Asian Studies (See Anthropology, Comparative Literature, Geography,	
History, Political Science)	
Astronomy384,	412
Behavioral Sciences in Education	182
Biological Science	
Business Administration	
Chemistry	
Chicano Studies	
Classics (See Comparative Literature, History and Latin)	
Communications	
	316
Computer Studies (See Engineering, Mathematics, Quantitative Methods)	169
Dance	115
Drama (See Theatre)	131
Drama Education (See Theatre Education)	140
Earth Science	412
Economics 150,	156
Education	
Behavioral Sciences in Education	174
School Administration/Social Foundations	199
Teacher Education	205
Engineering	225
English	
	329
	258
Ethnic Studies (See Afro-Ethnic Studies and Chicano Studies)	
Finance	160
	mac S
Foreign Languages and Literatures	
Foreign Languages Education	332
French	337
Geography	345
Geology	412
German	334
	97
Health Education	
Hebrew	338
History	35
Interdisciplinary Center	260
International Relations (See Political Science, Economics, History)	
International Study	9

Subject	Page
Italian	339
Journalism (See Communications)	DI 201 A
Journalism Education	315
Latin	339
Latin American Studies	263
Law (See Political Science, Management)	162
Library Science	435
Linguistics	361
Management	
Marketing	166
Mathematics	369
Mathematics Education	414
Medical Biology Courses	
Mexican-American Studies (See Chicano Studies)	El-onlA-
Music	118
Music Education	129
Mythology (See Anthropology and Comparative Literature)	167
Native American Studies (See Afro-Ethnic Studies)	
Native American Studies (See Afro-Ethnic Studies) Nature Interpretation	
	05 415
Philosophy	377
Photography (See Art and Communications)	CALA MITTER
Physical Education	187
Physical Science	05, 384
Physics3	
Political Science	389
Portuguese	339
Psychology	399
Public Administration (See Political Science)	
Public Relations (See Communications)	
Ouantitative Methods	169
Radio (See Theatre and Communications)	
Reading	217
Recreation	187
Religious Studies	405
Russian	266, 340
Russian Area Studies	266
Sanskrit (See Linguistics)	School
School Administration	199
at mi i	109, 416
Social Foundations of Education	199
Social Sciences	268
Social Welfare	208
Social Work (See Social Welfare)	90
Sociology	
	418
Spanish Speech (See Speech Communication)	342
	Higherton
Speech Communication	425
Speech Education	434
Sports (See Physical Education)	
Statistics (See Mathematics and Quantitative Methods)	
Student-to-Student Tutorial	98
Swahili	344
Teacher Education	205
Technological Studies	270
Television (See Theatre and Communications)	131
Theatre	131
Theatre Education	140

COURSE DESCRIPTIONS

Course descriptions briefly describe the content or subject matter to be covered and provide additional information on units of credit, the level of instruction (general course numbering code), prerequisites, and the type of course (lecture, laboratory, activity, seminar, and individually supervised work). Information on specific offerings of courses (times, rooms, instructors) will be found in the class schedule which is printed in advance of the fall and spring semesters. Information on additional (new, special, or experimental) courses for each semester also can be found in these class schedules. The Associate Students also publishes A Guide to Courses and Faculty at Cal State Fullerton. Although not complete, this provides much additional information on some courses and teachers at the college as well as results of student polling from a number of the courses in the Guide.

Some of the courses listed in the catalog are not taught every year. Many are taught once only every year. Others are taught every semester, and often in many sections. Advance information regarding the plans for offering particular courses may be obtained from the offices of the departments teaching them.

The forms and methods of teaching vary widely in specific classes, depending on the subject matter and purposes and the particular instructor and students. The more traditional methods of lecturing, discussion, laboratory work, and individually supervised research or projects increasingly are being supplemented by such learning resources as group and individual exercises, television, and films and records, videotaping, and the use of the computer. Modern specialized facilities and equipment are used in many courses in different fields. These include: laboratories for teaching the sciences; studios for teaching the fine arts; a small museum and archaeology/physical anthropology laboratory; a variety of facilities for teaching communications; a language laboratory for teaching foreign languages and linguistics courses; a speech and hearing clinic; and the Tucker Wildlife Sanactuary.

The college encourages experimentation and innovation in teaching and welcomes a diversity of approaches. Increasingly, and with growing help from students, efforts are being made on the campus to examine and evaluate and improve the learning experiences in some classrooms in more scholarly ways. Students also are being provided more opportunities to learn through teaching experiences in activities such as tutoring and organizing and conducting courses in the experimental college.

SCHEDULES

A new class schedule is published in advance of the fall and spring semesters. This general, college schedule contains not only detailed information on times, places, and instructors for specific courses but also materials on registration, new courses that are not in the catalog, the times for final examinations, and many other useful items for course and program planning. The class schedule may be bought at the Titan Bookstore. Separate and free schedules are provided for the summer sessions and extension programs: these may be obtained from the office of the dean of Continuing Education. The Experimental College of the Associated Students also distributes a schedule in advance of its programs of course offerings.

GENERAL COURSE NUMBERING CODE

- 100-299 Lower division courses of freshman and sophomore level, but open also to upper division students.
- 300-399 Upper division courses of junior and senior level, which do *not* give graduate credit unless included on an approved graduate study plan (such as a credential or graduate degree program) for a specific graduate student.
- 400-499 Upper division courses of junior and senior level which give graduate credit when taken by a graduate student. (Note limitations in specific graduate programs.)
- 500-599 Graduate courses organized primarily for graduate students.*
- 700-799 Graduate professional courses in the postgraduate program, not applicable to graduate degrees.

DEPARTMENTAL COURSE NUMBERING CODE

Because of the differences in the organization and content of the various disciplines and professions, there is no uniform, reasonable way of numbering courses that would be equally useful for all fields of knowledge. Some of the departments

explain the logic of their own course numbering system in this catalog.

In general it may be assumed that increases in class (freshman, sophomore, junior, senior, or graduate) and certainly division level (lower, upper, graduate) correlate with more difficult and challenging academic work. Sometimes, however, disciplines organize their course numbering partly in terms of criteria other than degree of difficulty: e.g. anthropology numbers its area courses in the 300's and its theoretical or institutional courses in the 400's. It should be noted, too, that some students find introductory courses to be more demanding than advanced, specialized courses: in such courses, a more comprehensive approach and the first exposure to new ways of thinking may be harder for some individuals than covering a smaller, and by new more familiar area, in much greater detail.

SPECIAL COURSE NUMBERS

For uniformity, certain types of courses have been listed by all departments and schools with the same numbers: 499 and 599 are used for undergraduate and graduate "independent study"; 196 or 496 for student-to-student tutorials; 597 for a graduate "project"; and 598 for a graduate thesis. The course numbers for senior seminars are not so uniform but they tend to be numbered 485, 490, 491, or 495.

EXPLANATION OF COURSE NOTATIONS

Certain notations are uniformly used in the course descriptions in the catalog.

- The figure in parentheses following the course title indicates the number of semester units for the course. Courses offered for varying units are indicated as (1-3) or (3-6).
- 2. A course description such as Anthropology 453 (3) (Same as Geography 453) indicates that: the same course is "cross-listed" by both departments, i.e. a student can choose to take the course and count it as either an anthropology or a geography course; the complete course description will be found with the geography courses; and probably the instructor will be a member of the Geography Department. For this same cross-listed course, the Geography Department will indicate after the course description "(Same as Anthropology 453)."
- 3. A notation such as (Formerly 433) following the course title and the number of units indicates the same course previously was numbered 433.

^{*} Note exceptions on page 66.

PREREQUISITES

Students are expected to meet stated prerequisites for all courses. However, in exceptional cases, and at the discretion of the division in which the course is taught, students may be allowed to meet prerequisites by examination.

INDEPENDENT STUDY

Under the independent study program, the upper division student can pursue topics or problems of special interest beyond the scope of a regular course under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination, or performance. Before registering, the student must get his topic approved by the professor who will be supervising independent study. The catalog numbers for independent study in departments are 499 and 599. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

INTERNATIONAL STUDY COURSES

California State College, Fullerton students under the California State Colleges International Study Programs register concurrently at California State College, Fullerton and at the host institution abroad, with credits assigned to the student which are equivalent to courses offered at California State College, Fullerton. Undergraduate students who discover appropriate study opportunities at the host institution but no equivalent course at California State College, Fullerton may use Independent Study (499) and International Study 292 or 492. Graduate students may use Independent Graduate Research (599) and International Study 592.

292 Projects in Study Abroad (Subject): (1-6 lower division units)

Open to students enrolled in California State Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

492 Projects in Study Abroad (Subject): (1-3 upper division units; maximum 12)

Open to students enrolled in California State Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

592 Projects in Study Abroad (Subject): (1-3 graduate units; maximum 12)

Open to students enrolled in the California Colleges International Programs. Study undertaken in a university abroad under the auspices of the California State Colleges.

GRADUATE STUDIES 700

A no (0)-unit, Credit/No Credit course, which is designed to ensure continuous registration for those graduate students with an advanced degree objective who find that they are unable to enroll in regularly offered coursework, and who are not eligible for a leave of absence. This course does not require class attendance. Permission to register in Graduate Studies 700 must be given by appropriate college authorities. A student may not register in Graduate Studies 700 for a third consecutive semester.

Students are reminded that units in a 700-level course may not be applied toward fulfillment of requirements for an advanced degree.

STUDENT-TO-STUDENT TUTORIALS

The college has begun a program of experimentation with and development of "student-to-student tutorials." One of the fastest and profoundest ways to learn is to teach. The "student-to-student tutorial" will provide a formal way to encourage students to learn through teaching. It will expand significantly the opportunities for students to have meaningful experiences as teachers. At the same time, it greatly will increase the amount of tutoring available and will extend tutoring to all of the kinds of students who need and want tutorial assistance.

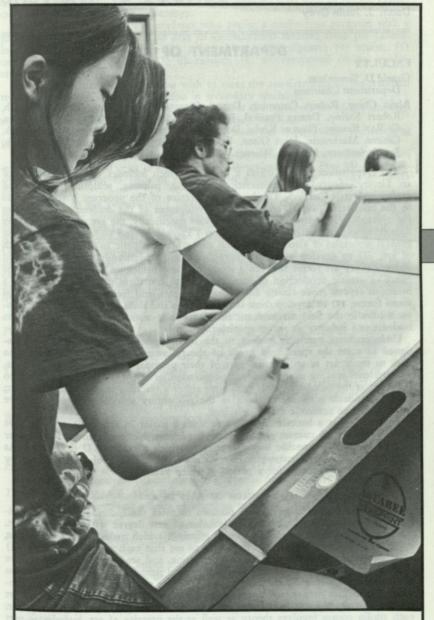
Students electing to be tutors not only will increase their mastery of particular subject matters but also will have practice in developing their communication, cooperation and interpersonal relationship skills. Most important adult roles and jobs also involve a teaching dimension and the tutorial experience will provide opportunities to develop awareness of teaching problems and competence in teaching techniques.

Each department will decide whether or not it wishes to offer this course. Departments choosing to offer the student-to-student tutorial course will follow the rules listed in the following course description.

The course number will be 196 or 496, and one to three units of credit can be given for each course.

Prerequisites: A 3.0 or more grade-point average and/or consent of instructor and simultaneous enrollment in the course or previous enrollment in a similar course or its equivalent. The tutor and his tutee or tutees will work in mutually advantageous ways by allowing all involved to delve more carefully and thoroughly into the materials presented in this specific course. One to three students may be tutored by the tutor unless the instructor decides that special circumstances warrant increasing the usual maximum of three tutees. Three hours of work are expected for each unit of credit, and this work may include, apart from contact hours with tutees, such other activities as: tutorial preparations; consulting with instructors; reporting, analysis and evaluation of the tutorial experiences; and participation in an all-college orientation and evaluation program for tutors. A maximum of three units can be taken each semester and nine units of any combination of 196 and 496 for an undergraduate program. This course must be taken as an elective and not counted toward general education, major or minor requirements. The course can be taken on a credit/no credit basis by the tutor. Requests for tutors must be initiated by tutees and can be initiated up until the official college date for dropping a class with a W. Tutors electing to respond to such requests will receive credits at the end of the semester and can register in the course until the official college date for dropping a class with a W. Both tutors and tutees must submit written reports, analyses and evaluations of their shared tutorial experience, and both must participate in an all-college orientation program as well as in any conferences or critiques that the instructor of the course may require.

Further information can be obtained from the department in which the student is interested in student-to-student tutorials.



THE ARTS

ART

Dean: J. Justin Gray

DEPARTMENT OF ART

FACULTY

Gerald D. Samuelson Department Chairman

Alvin Ching, Robert Cumming, Darryl Curran, Naomi Dietz, Henry Evjenth, Robert Ewing, Dextra Frankel, Raymond Hein, Gregory Ivy, George James, G. Ray Kerciu, Thomas Klobe, Donald Lagerberg, Michael Lyon, Martin Mack, Clinton Mackenzie, John Olsen, Robert Partin, Jerry Rothman, Victor Smith, Jon Stokesbary, Howard Warner

The Department of Art offers a program which includes the several fields of art history, theory, and appreciation; drawing, painting, sculpture; design and crafts; and art education. The broadest objective of the program is to contribute to the intellectual, social, and creative development of the student as he prepares for citizenship in a democratic society. More specifically, the art program provides opportunities for students: (1) to develop a knowledge and understanding of those general principles of visual organization and expression basic to all forms and fields of art; (2) to develop a critical appreciation and understanding of historical and contemporary art forms through a study of these principles as they relate to the range of artistic production of mankind; (3) to use these general principles as a means to express more clearly their ideas, thoughts, and feelings in the creation of visual forms; (4) to develop those understandings and skills needed to pursue graduate studies in the field, to teach art in the schools, or to qualify for a position in business and industry as an art specialist.

Undergraduate curricula leading to the bachelor of arts degree have been designed to meet the specialized needs of the following groups: (1) students who wish to study art as an essential part of their personal and cultural development; (2) students seeking preprofessional preparation in art; (3) students planning to teach art at the secondary level who wish either a teaching major or minor in art; and (4) students planning to teach in the elementary schools who wish to have

art as either an academic major or minor.

To qualify for a baccalaureate degree with a major in art, students must have a C average in all courses required for the degree. No credit toward the major will be allowed for specific major courses in which a grade of D is obtained. As is customary, the Art Department reserves the right to hold projects completed by a student for class credit for a period of three years.

BACHELOR OF ARTS IN ART

Five course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in art.

In the development of specific course offerings which make up these programs, it has been the concern of the art faculty to see that each program contains: (1) basic courses in art history, theory, appreciation, and studio practice which have as their primary focus the study of those general principles of visual organization and expression underlying all fields of art; (2) more specialized courses which provide for adequate preparation in depth in a single field of art. The teaching of art history, theory, and criticism is not confined to courses bearing that title. Rather, each studio course involves theory as well as the practice of art, includes as part of its content the study and reference to related historical art forms, and has as part of its purpose the development of those critical abilities which are necessary to a valid evaluation and appreciation of the art expressions of man.

Plan I provides for an emphasis in the area of art history, theory, and appreciation and is particularly recommended for those students who wish to pursue gradu-

ate studies in art history or museology.

Plan II is designed for those students who prefer a studio-type program with a preprofessional orientation and an area of specialization selected from the following: (1) drawing and painting; (2) printmaking; (3) sculpture; (4) crafts; (5) ceramics; (6) graphic design; (7) illustration; (8) environmental design, or (9) creative photo.

Plan III is for those students who wish to meet the requirements of the standard

teaching credential with specialization in secondary teaching.

Plan IV is for those students who wish to meet the requirements of the standard teaching credential with specialization in elementary teaching.

Plan V is for those students who wish to meet the requirements for teaching

in junior college.

All five plans require a minimum of 60 units in art or approved related courses with a minimum of 30 units of upper division in art except for Plan IV which requires a minimum of 45 units of art including a minimum of 27 units of upper division in art.

In addition to the requirements listed below for the major, students must meet the other college requirements for a bachelor of arts degree (see page 74). Students following Plans III and IV also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education). Graduate students who plan to meet the requirement for a standard teaching credential with specialization in secondary school teaching with a major in art must complete six units in art as approved by the major adviser on and beyond the specific course requirements listed in Plan III before they can be recommended by the Art Department for student teaching.

Preparation for the Major: Art history 201A, B (6 units); 6 units of studio	
courses; aproved electives (12 units) in art, anthropology, drama, foreign languages, history, literature, music or philosophy	24
The Major: Art history (36 units) including one course from each of the following six groups: 301-302; 411-412; 421-422; 431-432; 451-452; 461-462-471; Six courses in not more than three of the above groupings and three courses (9 units) of approved electives. Reading knowledge of one modern foreign language	36
PLAN II: STUDIO EMPHASIS	
Drawing and Painting	
Preparation for the Major: Art 103, 104; 107A,B; 117A,B,C; 201A,B; 207A,B; and 3 units of electives. (Recommended electives: Art 216A or 247A)	30
The Major: Art 307A,B; 317A,B: 487A,B or C (6 units); 6 units of upper division art history; and 6 units of electives in art	30
Printmaking	
Preparation for the Major: Art 201A,B; 107A,B; 247; 117A,B,C; 103; 104 and 6 units of electives	30
The Major: 6 units of upper division art history, Art 347A,B, 487D (6 units), 307A, 317A and 6 units of electives in art	30
Sculpture	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 216A,B, 117A,B,C, and 205A	30
The Major: 6 units of upper division art history, Art 316A,B, 486 (6 units), 336A,B and 6 units of electives in art	30

Crafts	Units
Preparation for the Major: Art 201A,B, 123A, 107A,B, 103, 104, 205A and 6 units selected from Art 106A, 205B, 216A or 117A,B,C	30
The Major—General Concentration: 6 units of upper division art history, Art 305A, 315A, 325A, 355A or 365A and 12 units selected from Art 305B, 315B, 316A, 325B, 338A, 485A, 485B, 485C or 485D or 485E	30
The Major—Jewelry/Metalsmithing Concentration: 6 units of upper division art history, Art 305A, 315A,B, 325A,B, 3 units selected from Art 305B, 355A, 365A or 338A and 6 units selected from Art 485A or 485C	30
The Major—Textile concentration: 6 units of upper division art history, Art 355A,B, 365A,B, 6 units selected from 355B, 365B, 485D, or 485E and 6 units of electives in art	30
Ceramics	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 106A,B, 117A,B,C and 3 units of electives	30
The Major: 6 units of upper division art history, Art 306A,B, 484 (6 units), 406A,B and 6 units of electives in art	30
Graphic Design	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123A, 117A,C,D, 223A,B	30
The Major: 6 units of upper division art history, Art 323A,B, 483A (6 units), 338A, 317A, 363A, 3 units selected from Art 338B, 317B or 363B and 6 units of electives in art	30
Illustration	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123A,B, 117A,C,D, 223B	30
The Major: 6 units of upper division art history, Art 363A,B, 483C (6 units), 317A,B, 323A, 3 units selected from Art 338A, 307A, 487B	30
Environmental Design	
Preparation for the Major: Art 201A,B, 107A,B, 103, 104, 123A,B, and 6 units selected from Art 106A, 205A, 216A or 223A,B.	30
The Major—Interior Space Planning Concentration: 6 units of upper division art history, Art 313A,B 483B (6 units), 453A,B and 8 units selected from Art 333A, 355A, 365A, 483D or 363A	30
The Major-Product Design Concentration: 6 units of upper division art history, Art 333A,B, 483C (6 units), 323A, 453A,B and 5 units of electives	
in art	30
Creative Photo	
Preparation for the Major: Art 201A,B, 103, 104, 107A,B, 117A,C,D, 247A and 6 units of electives	30
The Major: 6 units of upper division art history, Art 338A,B, 489 (6 units), 347A and 9 units selected from 323A, 363A, 307A or 347B.	30
PLAN III: TEACHING EMPHASIS	
Secondary	
Preparation for the Major: Art 201A,B, 107A,B, 123A or equivalent, 103, 104, 106A and 205A	27
The Major: 9 units of upper division art history to include Art 411 or 412, 310A,B, 338A, 380, 6 units of upper division design to include Art 323A and 6 units of art electives	33

Fifth Year Credential Program: In the five-year program for the standard teaching credential, secondary, to be eligible for consideration for student teaching by the art faculty, the student must meet the following requirements:

1. Be assigned by the Art Department chairman to a faculty adviser in art

concerned with teacher education.

Fulfill credential requirements listed in this catalog within the School Education for the curriculum on secondary school teacher education.

3. Meet requirements listed under Plan III, Teaching Emphasis (Secondary)

for the bachelor's degree in art.

 Complete Art 380 and Art Ed 441, Educ 411 and Educ 340 prior to enrollment in Art Ed 442.

 Complete six additional upper division or graduate level units in art in an area of emphasis as part of the 30 units required beyond the bachelor's degree.

6. Obtain recommendation of the faculty adviser in art concerned with teacher

education.

7. Submit a portfolio of art work to be evaluated by the art faculty.

PLAN IV: TEACHING EMPHASIS

PLAN V: TEACHING EMPHASIS Community College

Preparation for the Major: Same as Plan II.
The Major: Same as Plan II.
See Community College Teacher Education Program, page 214.

MINOR IN ART FOR THE BACHELOR OF ARTS DEGREE

A minimum of 24 units is required for a minor in art for the bachelor of arts degree of which a minimum of 10 units must be in upper division courses. Included in the program must be a basic course in each of the following areas: (1) art history and appreciation; (2) design; (3) drawing and painting; and (4) crafts. Those students planning to qualify for a standard teaching credential with specialization in elementary or secondary teaching and art for a minor must obtain approval from the Art Department for the courses selected to meet the upper division requirements for a minor in art.

MASTER OF ARTS IN ART

The program of studies leading to the master of arts degree in art provides a balance of theory and practice for those who desire to teach art or wish to develop a sound basis for continued advanced work in this field. The program offers each student the opportunity to expand his intellectual and technical resources and to acquire greater richness and depth in terms of creative understanding and achievement in one of the following areas of concentration: (1) drawing and painting (including printmaking); (2) crafts (including ceramics); (3) design; and (4) sculpture.

Prerequisites for the Program

Prerequisites to the program include:

- (1) an undergraduate major in art or 24 units of upper division art including at least 12 units of upper division study in the elected area of concentration with a GPA of 3.0 or better:
- (2) Portfolio Review—before any units may apply to the approved study program for the degree, the student must arrange for a faculty committee evaluation

of the student's background, including a statement of purpose by the student, and review of creative work. Portfolio review dates are May 1 for the following fall semester, and December 1 for the following spring semester of each year. Arrangements may be made through the Art Office to meet these deadlines.

Program of Studies

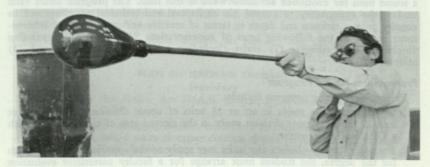
The degree program requires 30 units of graduate study approved by the student's graduate committee of which 15 must be 500-level courses. The 30 units are distributed as follows:

Units 1. 500-level courses in art 15-21 A. Core courses in art, history, philosophy, analysis and criticism (1) Art 500 Graduate Seminar in Art (3 units) (2) Art 501 Graduate Seminar in Major Field (6 units) (On the recommendation of the adviser, the student may substitute 3 units in Philosophy 311, Aesthetics, or a 400 number art history course as partial fulfillment of this requirement.) B. Coursework in the area of concentration selected from one of the following areas (1) Drawing and painting (2) Crafts (3) Design (4) Sculpture C. Project or thesis 3-6 2. Additional courses A. 500- and/or 400-level courses in art to extend the student's field in depth B. 500-, 400- and/or 300-level courses, either in courses outside the Art Department and related to the student's special area of interest, or in courses within the Art Department but outside the area of concentration, to expand the student's field in breadth 3-6 Total 30

All courses must be completed with a B average, and all courses in the area of concentration must be graded B or better. The Department of Art requires the candidate for the Master of Arts in Art degree to exhibit his or her project in the department upon completion of the Master of Arts in Art degree and the art faculty reserves the right to retain an example from the student's master's exhibit for the college collection.

For further information, consult the Department of Art.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.



ART COURSES

100 Exploratory Course in Art (3)

Exploration and creative use of a variety of art materials, processes, and concepts. Field trips required. Not open to art majors for credit except by permission of the Art Department. (6 hours activity)

101 Introduction to Art (3)

A course for the general student designed to develop an understanding of historical and contemporary art forms. Illustrated with examples of painting, sculpture, architecture, and design. Field trips required. Not open to art majors for credit except by permission of the Art Department.

103 Two-dimensional Design (3)

The inventive use of materials, tools, and elements of plastic organization as related to a two-dimensional surface. (6 hours activity)

104 Three-dimensional Design (3)

The inventive use of materials, tools, and elements of plastic organization as related to three-dimensional form. (6 hours activity)

106A,B Beginning Ceramics (3,3)

Prerequisite: Art 103. A basic course in the study of form as related to ceramic materials, tools, processes, and concepts. (6 hours activity)

107A,B Beginning Drawing and Painting (3,3)

Beginning work in the creative use of the materials of drawing and painting with emphasis on visual concepts, use of medium, individual exploration, and growth, planning and craftsmanship. 107A emphasizes drawing; 107B emphasizes painting. (9 hours laboratory)

111 Fundamentals of Art (3)

A comparative study of the elements of plastic organization in relation to personal and cultural aesthetic expression and concepts. Fundamental art ideas, problems of organization and structure, and terminology. Field trips required.

117A,B,C,D Life Drawing (1,1,1,1)

Drawing from the live model. 117B will include working from the model with three-dimensional materials. (3 hours laboratory for each unit)

123A,B Descriptive Drawing (3.3)

An intensive study of traditional and contemporary drawing techniques and theories. Emphasis in 123A on representation of nature forms and in 123B on manmade and mechanical forms including linear perspective. (9 hours laboratory)

201A,B Art and Civilization (3,3)

A comparative survey of the basic ideas, forms, and styles of the visual arts as they developed in various cultures from prehistoric time to the present day.

205A Beginning Crafts (3)

Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of craft concepts, processes and materials as they relate to the development of aesthetic forms based on function. (6 hours activity)

205B Beginning Crafts: Wood (3)

Prerequisites: Art 103 and 104. Art 104 may be taken concurrently. A study and evaluation of woodworking concepts and processes as they relate to the development of wood into aesthetic form based on function. (6 hours activity)

207A,B Drawing and Painting (Experimental Methods and Materials) (3,3)

Prerequisites: Art 117A,B, Art 107A,B or the equivalents. An intensive study of traditional and contemporary methods and materials as they relate to current approaches in drawing and painting. (9 hours laboratory)

216A,B Beginning Sculpture (3,3)

Prerequisite: Art 104. An introductory course in sculpture with emphasis on the creative use of wood and metal, power equipment and hand tools. (6 hours activity)

223A,B Lettering, Typography and Rendering (3,3)

Prerequisite: Art 103. A study of the history, design and use of letter forms including techniques for rough and comprehensive layouts and the use of both hand-lettered forms and handset type. (6 hours activity)

247 Beginning Printmaking (3)

Prerequisite: Art 107A,B. An introductory course of all printmaking forms to include litho, etching, woodcut and serigraphy. (6 hours activity)

286 Design for the Theatre (3)

(Same as Theatre 286)

301 Ancient Art (3)

A study of the developments in art from the Paleolithic to the period of late antiquity.

302 Medieval Art (3)

A study of the developments in art from the period of late antiquity through the Gothic.

305A Advanced Crafts (3)

Prerequisite: Art 205A. Study and evaluation of craft concepts, processes, and materials as they relate to the development of utilitarian and aesthetic form. (9 hours laboratory)

305B Advanced Crafts: Wood (3)

Prerequisite: Art 205B. A study and evaluation of craft concepts and processes as they relate to the development of wood into utilitarian and aesthetic form. (9 hours laboratory)

306A,B Advanced Ceramics (3,3)

Prerequisite: Art 106A,B. Further experiences in the study and evaluation of form as related to the creative use of ceramic concepts and materials including design, forming, glazing, and firing. (6 hours activity)

307A,B Drawing and Painting (3,3)

Prerequisites: Art 117A,B,C, 107A,B, 207A,B or equivalents. The study, evaluation and creative use of the concepts and materials of drawing and painting with emphasis on individual exploration, growth, planning and craftsmanship. (9 hours laboratory)

310A,B Drawing and Painting: Techniques and Approaches for the Classroom Teacher (3,3)

Prerequisite: Art 100. The study and development of painting and drawing materials and approaches as they relate to elementary and secondary education. (6 hours activity)

313A Interior Design (3)

Prerequisites: Art 103 and 123A, B. Aesthetic and economic considerations involved in the visual organization of the environment in relation to human needs with emphasis on interior space planning. (6 hours activity)

313B Interior Design (3)

Prerequisite: Art 313A. Aesthetic and economic considerations involved in the visual organization of the environment in relation to human needs with emphasis on professional practice including material analysis and business procedures. (6 hours activity)

315A,B Jewelry (3,3)

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. Design and creation of jewelry. (9 hours laboratory)

316A,B Sculpture (3,3)

Prerequisites: Art 104 and 216A. (9 hours laboratory)

317A,B Advanced Life Drawing (3)

Prerequisite: three units lower division life drawing. Drawing and painting from the live model. (9 hours laboratory)

320 Paper: Structural and Decorative Techniques (3)

Prerequisites: Art 103 and 104. An exploration of the structural and decorative aspects of construction with paper, emphasizing three-dimensional design. Such techniques as papier maché, paper sculpture, paper folding and paper appliqué will be considered through a variety of paper surfaces. (6 hours activity)

323A,B Graphic Design (3,3)

Prerequisites: Art 103 and 223A. Development and projection of ideas in relation to the technical, aesthetic, and psychological aspects of advertising art. (6 hours activity)

325A,B Metalsmithing (3,3)

Prerequisites: Art 205A and 305A. Art 305A may be taken concurrently. A study and evaluation of fundamental metalsmithing concepts, processes and materials as they relate to the aesthetic development of utilitarian forms, raising, silversoldering, forging, casting, engraving, chasing and repoussé. (9 hours laboratory)

326A,B Ceramic Sculpture (3,3)

Development of basic ceramic technology into individual sculptural forms and techniques. (6 hours activity)

329A,B Art and Technology (3,3)

Creative activity in the context of modern technology. (9 hours laboratory)

330 Textile Design: Threads and Fibers, Non-woven Techniques (3)

Prerequisites: Art 103, 104 or 205A or B, or consent of instructor. Concepts and processes of design as they relate to non-loomed structures, to include macrame, crochet, stitchery and knitting. (6 hours activity)

333A,B Product Design (3,3)

Prerequisites: Art 103, 104 and 123A,B. Planning and designing of projects in relation to the technological, psychological and social aspects of contemporary society. (6 hours activity)

336A,B Casting Techniques and Theories of Cast Sculpture (3,3)

Prerequisite: Art 316A. Projects in various waxing molding and metal casting techniques. Media with emphasis on aluminum and bronze and the lost wax process. (9 hours laboratory)

338A Creative Photography (3)

Prerequisite: Art 103 or its equivalent. Exploration of the photographic media as a means of personal expression. Historical attitudes and processes are discussed in relationship to new materials and contemporary aesthetic trends. Field trips required. (9 hours laboratory)

338B Creative Photography (3)

Prerequisite: Art 338A. Further exploration of the photographic medium as a means of personal expression. Historical and new processes introduced as a vehicle toward the individual student's personal goal. Field trips required. (9 hours laboratory)

340 Ceramics: Techniques for the Classroom Teacher (3)

Prerequisite: Art 100. Beginning work in the creative use of hand building processes, and glazing of ceramic ware. Related information on decorating processes, drying and firing kilns as they apply to appropriate teaching levels. Historical development of ceramics as it relates to various cultures.

347A Printmaking (3)

Prerequisites: Art 107A,B and 117A,B,C. Development of concepts and exploration of materials involved in printmaking including etching, woodcut, aquatint, monoprint and serigraphy. (9 hours laboratory)

347B Printmaking-Lithography (3)

Prerequisites: Art 107A,B and 117A,B,C. Development of concepts and exploration of materials and techniques involved in lithography printing. (9 hours laboratory)

350A,B Painting for Non-Art Majors (3,3)

Opportunities for students with little or no background in art to work creatively with various painting media both indoors and outdoors. Not open to art majors. (9 hours laboratory)



355A,B Textile Design and Construction: Fabric Printing (3,3) (Formerly 353A)

Prerequisites: Art 103, 107A or B or consent of instructor. Concepts and processes of design as they relate to fabric surfaces with emphasis on various printing and dyeing techniques. (6 hours activity)

360 Elementary School Crafts (2)

Studio activities and techniques of crafts appropriate to the elementary school. Strongly recommended for elementary teaching credential candidates. (4 hours activity)

363A,B Illustration (3,3)

Prerequisites: Art 103, 107A,B and 117A,B,C. Development and projection of ideas relative to the needs of story, book, and magazine, and film illustration. (6 hours activity)

365A,B Textile Design and Construction: Weaving (3,3) (Formerly 353B)

Prerequisites: Art 103, Art 104 or 205A,B or consent of instructor. Concepts and processes of design as they relate to fabric construction with emphasis on various weaving techniques. (6 hours activity)

380 Art and Child Development (3)

Prerequisites: Art 100 or equivalent. The study and evaluation of art concepts, materials, and processes as they relate to and promote child development. (6 hours activity)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

406A,B Ceramic Analysis (3,3)

Prerequisites: Art 106A,B and 306A. An introduction to the physical and chemical aspects of ceramic materials. Study and evaluation of ceramic materials as they are related to the development of the ceramic art form. (6 hours activity)

411 Foundations of Modern Art (3)

Basic problems of painting and sculpture of the Realism, Impressionism, Post Impressionism periods.

412 Art of the 20th Century-1900 to Present (3)

Fundamentals of modern painting, graphics, and architecture.

421 Oriental Art: China (3)

A study of the historical development of the arts of China and their relation to Chinese philosophy and culture.

422 Oriental Art: Japan (3)

A study of the historical development of the arts of Japan and their relation to Japanese philosophy and culture.

426 Glass Forming (3)

Prerequisites: Art 106A,B, Art 306A, and approval of instructor. A course in the chemistry, handling and manipulation of glass and its related tools and equipment for the ceramic artist. (6 hours activity)

109

431 Renaissance Art (3)

Basic problems of painting, sculpture and architecture of the Renaissance period. Lectures, discussion and field trips.

432 Baroque and Rococo Art (3)

Basic problems of painting, sculpture and architecture of the Baroque and Rococo period. Lectures, discussion and field trips.

443A,B Film Making (3,3)

Development of film as a visual art form.

451 Oceanic Art (3)

An introductory survey of the styles of the aboriginal people of the following regions: Australia, Melanesia, Micronesia, Polynesia and Indonesia.

452 Art of Sub-Saharan Africa (3)

An introduction by region and tribal group to the art forms of West Coastal Africa and the Sudan, Niger River kingdoms, Yourba kingdoms, Cameroon chieftainships. Congo tribes, Central Africa and East Coastal Africa.

453A,B Display and Exhibition Design (2,2)

A course in the appropriate and creative use of materials, processes, and design concepts as they relate to the special problems involved in the planning and preparing of displays, exhibits, bulletin boards, wall cases, and art portfolios. (More than 6 hours laboratory)

461 Art of North American Indian (3)

An introduction to the art forms and style groupings of the following American Indian groups: Eskimo, Pacific Northwest, California, Eastern Woodlands, Mound Builders, Southwestern and Northern Mexico.

462 Art of Mesoamerica (3)

An introduction to the art and architectural forms of Mesoamerica from the early, formative stages to the Spanish Conquest.

471 Art of Central and South America (3)

An introduction to the art styles and cultural regions of Central America and South America.

481 Special Studies in Art History (1-3)

Prerequisite: permission of the instructor. Opportunities for intensive study and evaluation in one area of art history and appreciation.

483 Special Studies in Design (1-3)

Prerequisite: permission of the instructor. Opportunity for intensive study in the design areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than 3 units of credit may be obtained in any one area in a single semester.

- 483a Graphic Design (2 hours activity for each unit)
- 483b Interior Design (2 hours activity for each unit)
- 483c Design and Composition (2 hours activity for each unit)
- 483d Display Design (More than 3 hours laboratory for each unit)
- 483f Film Making (2 hours activity for each unit)

484 Special Studies in Ceramics (1-3)

Prerequisite: a minimum of six upper division units in ceramics. Course may be repeated to a maximum of 12 units, but not more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

485 Special Studies in Crafts (1-3)

Prerequisite: a minimum of six upper division units in designated area or consent of instructor. Opportunity for intensive study in the craft areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (2 hours activity for each unit)

485a Jewelry

485b General Crafts

485c Metalsmithing

485d Textile Design—Weaving, Threads and Fibers (Formerly 483e)

485e Textile Design—Fabric Printing (Formerly 483e)

486 Special Studies in Sculpture (1-3)

Prerequisites: Art 316A,B and consent of instructor. Opportunity for intensive study in the following sculptural processes. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

486a Modeling and Fabrication

486b Casting

487 Special Studies in Drawing and Painting and Printmaking (1-3)

Prerequisite: consent of instructor. Opporunity for intensive study in the drawing and painting areas listed below. Each area listed may be repeated to a maximum of 12 units, but no more than three units of credit may be obtained in any one area in a single semester. (3 hours laboratory for each unit)

487a Painting

487b Life Drawing

487c Drawing

487d Printmaking

488A,B Advanced Scene Design (3,3)

(Same as Theatre 488A, B)

489 Special Studies in Creative Photography (1-3)

Prerequisite: Art 338A,B. Advanced projects in photography as a means of personal expression. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

500 Graduate Seminar in Art (3)

Selected advanced problems in art and art education. Each student will present research results in oral or written form.

501 Graduate Seminar in Major Field (3)

Prerequisite: Art 500. Directed research with emphasis on the relationship between historical backgrounds and developments in art and the student's area of concentration. May be repeated to a maximum of eight units.

111

502 Seminar in Contemporary Art (3)

Selected advanced problems and directed research in relation to the contemporary art form.

503 Graduate Problems in Design (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the design areas listed below. May be repeated to a maximum of 12 units in each area, but no more than three units of credit may be obtained in any one area in a single semester.

- 503a Graphic Design (2 hours activity for each unit)
- 503b Interior Design (2 hours activity for each unit)
- 503c Design and Composition (2 hours activity for each unit)
- 503d Display Design (More than 3 hours laboratory for each unit)
- 503f Film Making (2 hours activity for each unit)

504 Graduate Problems in Ceramics (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development and evaluation of individual projects in ceramics. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

505 Graduate Problems in Crafts (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in the crafts areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

- 505a Jewelry
- 505b General Crafts
- 505c Metalsmithing
- 505d Textile Design-Weaving-Threads and Fibers (Formerly 503e)
- 505e Textile Design—Fabric Printing (Formerly 503e)

506 Graduate Problems in Sculpture (1-3)

Prerequisite: consent of instructor. Intensive study with emphasis on planning, development, and evaluation of individual projects in sculpture. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (2 hours activity for each unit)

507 Graduate Problems in Drawing and Painting (1-3)

Prerequisite: 12 units of upper division drawing and painting. Intensive study with emphasis on planning, development, and evaluation of individual projects in the drawing and painting areas listed below. May be repeated to a maximum of 12 units but no more than three units of credit may be obtained in a single semester. (3 hours laboratory for each unit)

- 507a Painting
- 507b Life Drawing
- 507c Drawing
- 507d Printmaking

597 Project (3-6)

Prerequisites: Art 500, 501 and recommendation of the student's graduate committee. Art 501 may be taken concurrently with Art 597 on approval of instructor. Development and presentation of a creative project in the area of concentration beyond regularly offered coursework.

598 Thesis (3-6)

Prerequisites: Art 500, 501 and recommendation of the student's graduate committee. Art 501 may be taken concurrently with Art 598 on approval of instructor. Development and presentation of a thesis in the area of concentration beyond regularly offered coursework. No more than three units may be taken in any one semester.

599 Independent Graduate Research (1-3)

Open to graduate students in art with the consent of the department chairman. May be repeated for credit.



ART EDUCATION COURSES

332 Industrial Arts for Elementary Teachers (2)

Prerequisite: Educ 411 or consent of instructor. Creative selection, organization and use of materials and tools in construction activities. Includes correlation experiences with the social studies, science, and other units of work. (4 hours activity)

370A,B Art Activity (2,2)

Opportunities to observe, analyze, and evaluate child growth in and through creative art experiences. (4 hours activity)

429A,B Arts and Crafts for Teaching Exceptional Children (2,2)

Methods of using a variety of art materials and processes with emphasis on those experiences which meet the needs of retarded or handicapped children. (4 hours activity)

441 Studio Problems in Secondary Art Education (3)

Prerequisite: senior standing in Art, or consent of instructor. Advanced individual studio problems with projects related to specific learning experiences in Art Education at the secondary school level. (6 hours activity)

442 Teaching Art in the Secondary School (2)

Prerequisites: Educ 340, Educ 411, Art 380, Art Ed 441, admission to teacher education, senior standing or consent of instructor. See pages 212–213 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials including audiovisual instruction for teaching art in secondary schools. Required, before student teaching of students presenting majors in art for the standard teaching credential. The student who has not had teaching experience must register concurrently in Educ 449.

749 Student Teaching in Art in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.

DEPARTMENT OF DANCE

FACULTY

Masami Kuni

Department Chairman

Miriam Tait, John Dougherty (Part-time)

The program of studies in the Department of Dance provides training in each of the related aspects of dance such as its history, theory, composition including space forming and choreography, and the technics of movement leading to dance performances and productions. The curriculum is designed in accordance with the following three objectives: (1) to prepare the student who wishes to enter dance as a profession, either in teaching, choreography, or performance; (2) to provide for the general college student the opportunity for a personal involvement in dance as an art form and as a basic movement experience; (3) to offer curricular experiences in dance for the student who is majoring in fields of study that are closely related to dance such as art, music and theatre.

A major in dance is not offered at this time. Refer to the Department of Theatre which offers both the B.A. and M.A. degrees with areas of concentration in dance.

DANCE COURSES

101 Introduction to Dance (2)

Historical and aesthetic approach to dance as an art form, to provide student with basic knowledge and aesthetic values in ballet, modern dance, educational dance, theatrical dance as well as ethnic dance. Field trips. Open to all students.

125A,B Improvisation (2,2)

Prerequisite: Dance 125A is prerequisite for Dance 125B. Theory and practice of improvisation in movement. The student will be taught to overcome inhibitions, to move freely and naturally and to improvise imaginatively in movement. (1 hour lecture, 2 hours activity)

135A,B Movement and Rhythm (2,2)

Prerequisite: Dance 135A is prerequisite for 135B. Designed to equip the student with higher kinesthetic and kinetic ability. Basic movement experience for dance, drama, art, music as well as the general student. (4 hours activity)

210 Creative Dance for Children (3)

Prerequisites: Dance 101 and 135A,B. Designed not only for the student who is going to teach children how to create dance, but also for the student who is going to be a dance creator. Basic dance subjects in relation to the growth of children from 5 to 17 years of age. How to make a dance motif and how to compose simple dances. (2 hours lecture, 2 hours activity)

227A,B Space Forming in Dance (3,3)

Prerequisite: Dance 135A,B. 227A is prerequisite for 227B. Theory of space and principle of space forming to train students to understand spacial movement, so that they can master movement on stage, stage design and the basic skills of choreography. (1 hour lecture, 4 hours activity)

245A,B Mime and Pantomime (2,2)

Prerequisite: 245A is prerequisite for 245B. Theory and practice of mime and pantomime for drama, dance and education (expression and gesture). Historical and contemporary knowledge and techniques with emphasis on individual development of creative skill in mime and pantomime. (4 hours activity)

255 Jazz Dance (2)

Prerequisites: Dance 101 and 135A,B. Designed to the basic rhythm of jazz and to equip the students with the technique of classic and modern jazz dances. (4 hours activity)

311A,B Elements and Forms of Dance Composition (3,3)

Prerequisites: Dance 135A,B and 227A,B. 311A is prerequisite to 311B. Basic forms and elements of dance composition will be offered; Simultaneous Symmetry, Alternate Symmetry, A-Symmetry, Simple Contrast, Compound Contrast, Balance and Unbalance, 4-units Rule, 6-units Rule, Rondo, Canon. Dances in which these rules must be applied will be composed by the student. (2 hours lecture, 2 hours activity)

331A,B Character Dance for Theatre (2,2)

Prerequisite: Dance 135A,B or consent of instructor. Basic Character dances such as Mazurka, Czardas, Friska, Polonaise, Fandango, Tarantella, along with the Court Dances such as Minuet and Galliard. Forms and techniques as well as costume and accompanying music will be included in each character style. Designed for students who aim to be professional performers or choreographers on stage, film and television, as well as for actors and directors of theatre. Helpful for schoolteachers who direct dance production and theatre production. (4 hours activity)

358 Philosophy and Methodology of Educational Dance (3)

Prerequisite: Dance 125A,B and Dance 311A,B or consent of instructor. A short history of dance education; principles and objectives of modern educational dance and the methodology to meet these objectives; principle and structure of curriculum for educational dance.

374A,B Dance Theatre and Production (3,3)

Prerequisite: Dance 135A,B and 227A,B or consent of instructor. Cannot be taken concurrently with Theatre 478AB. Theory and practice of creative and expressive movement in relation to the theatre and dance production. (More than 9 hours production)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes the practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

441 Seminar in Ethnic Dance as Culture Phenomena (3)

Prerequisite: consent of instructor. A study of the mutual influence and relation between the religion, living form, habits and economical-political-geographical environment and dance form (including music and costume) of the major ethnic groups of the world.

450 Creative Dance for Teachers (3)

Prerequisites: Dance 135A,B and 358, or consent of instructor. Study and analysis of creative dance and its relation to dance education in elementary and secondary schools. Recommended for students of dance, theatre, music and art as well as practising teachers. (2 hours lecture, 2 hours activity)

474 Special Studies in Dance Theatre Production (1-3)

Prerequisites: Dance 374A,B or the equivalent and consent of instructor. Opportunity for intensive study in theory and practice in dance theatre and production. May be repeated to a maximum of eight units but no more than three units of credit may be obtained in a single semester. (More than 3 hours production per unit)

476A,B History of Dance (3,3)

History of dance from primitive times to the present. Covers development of dance in Europe, the Orient, Asia, America (including American Indian) in its general relation to culture history.

477 Dance Aesthetics (3)

Prerequisites: Dance 101 and 374A,B and/or consent of instructor. Philosophical as well as theoretical knowledge of dance as an art form. A study of the processes of dance creation, movement and image; the problems of music accompaniment in dance, and dance as an art form of metaphysical beauty.

484 Survey of Contemporary Dancers (3)

Survey of great dancers and choreographers of the 20th century in Europe, Asia and the Americas; their biography, works, and philosophy.

486 Choreography (3)

Prerequisites: Dance 374A,B or the equivalent and consent of instructor. Theory and practice of notating dance. Provide choreographic skill with emphasis on individual creativity. (2 hours lecture, 2 hours activity)

499 Independent Study (1-3)

Directed reading, reports, creation and performance according to predetermined arrangements with instructor and department chairman.

585 Seminar in Educational Dance (3)

Prerequisite: consent of instructor. Discussion and analysis of principle, forms and methods of dance education in the world. Survey of the literature relating to dance education.



DEPARTMENT OF MUSIC

FACULTY

Leo E. Kreter

Department Chairman

Carole Chadwick, F. Andrew Charlton, Hugh Ellison, Bruce Foote, Rita Fuszek, J. Justin Gray*, Burton Karson, Desmond Kincaid, Joseph Landon, Gary Maas, Frank McCarty, Donal Michalsky, Benton Minor, M. Jane Paul, Robert Stewart, David Thorsen, Gary Unruh, Rodger Vaughan

PART-TIME

Vera Barstow (Violin, Viola), Naoum Benditsky (Violoncello), Calman Bloch (Clarinet), Alberto Bolet, Phyllis Cartledge, Marrianne Caudill (String Bass), Joachim Chassman (Violin, Viola), M'Lou Dietzer (Piano), Kenneth Fiske, Norman Fleming (Trombone-Baritone), Walter Goodwin (Percussion), Jay Grauer (String Bass), Thomas Greer (French Horn), Mario Guarneri (Trumpet), Su Harmon (Voice), Robert Henderson (French Horn), Elizabeth Holborn (Violin, Viola), Luella Howard (Flute), Cornel Imry (Guitar), Malcolm McNab (Trumpet), Donald Maggeridge (Oboe), Raymond Nowlin (Bassoon), Harvey Pittel (Saxophone), Dorothy Remsen (Harp), Leona Roberts (Voice), Charles Shaffer (Organ), Susan Stockhammer (Flute), Earle Voorhies (Piano)

The Department of Music offers courses in music for both majors and non-majors. The fundamental purpose of the music major curriculum leading toward the baccalaureate degree is to provide the necessary training in each of the related aspects of music such as its history and literature, theoretical studies, and musical performance. Such a program of studies is based on the need to provide serious students with a core curriculum which will prepare the individual in such areas as (a) the knowledge of the history and relationships of music as an art form, (b) a comprehensive and analytical understanding of musical literature, (c) a working knowledge of music theory and structure, (d) a high degree of competence in a performing field, and (e) a specialization within the major.

The music program is designed to educate:

- Students in general, in terms of composite minors, music minors, or broad offerings in the humanities or liberal arts.
- Students preparing to teach in the elementary and/or secondary schools, with a major field concentration in music (special music teachers).
- Students preparing to teach in the elementary schools with a major field concentration in music (classroom teachers).
- Students preparing to teach in the junior colleges and four-year colleges with a major field concentration in music.
- Students other than music majors preparing to teach as classroom teachers in the elementary schools.
- Students seeking undergraduate preparation for other vocations in music, normally requiring advanced training.

REQUIREMENTS OF THE DEPARTMENT OF MUSIC

1. Placement examinations in basic piano, voice, theory and performance will be given to all music majors at the time of entrance to the college. Demonstrable proficiency in the piano and voice placement examinations will satisfy the requirement in piano and voice proficiency (see 5d and 7 following). Students deficient in any of the above areas will be expected to take additional work as recommended.

^{*} College administrative officer.

- 2. Music majors will be expected to declare a principal performance area with the approval of the faculty adviser. It will be expected that each student will demonstrate satisfactory progress within this principal performance area, culminating in the successful presentation of a senior recital before he may be approved for graduation. With the written approval of the coordinator of the principal performance area the recital requirement may be fulfilled by conducting, composition, lecture, or any combination of these with performance.
- 3. All music majors are required to participate in a major performance group (band, orchestra, opera or chorus) each semester of the regular school year (minimum: B.A. six semesters, B.M. eight semesters). Students who declare wind or percussion as their principal performance area must register for band (and/or orchestra, if designated by the instrumental coordinator); string majors must register for orchestra; and voice majors must register for chorus (or opera if designated by the choral-vocal coordinator). A music major whose principal performance area is piano or organ shall be assigned to an appropriate performance group by his faculty adviser.
- All music majors whose principal performance area is an orchestral instrument or piano are expected to take part in small ensembles for a minimum of two semesters.
- 5. The principal performance area for the major in music requires work in applied music, as follows:
 - a. Piano, voice and instrumental majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area.
 - b. A composition major must complete eight units of applied music in a principal performance area, and eight units of composition culminating in the successful presentation of a senior recital of his own compositions.
 - c. Choral or instrumental conducting majors must complete a minimum of eight semesters (six semesters B.A.) of applied music in the principal performance area, in addition to a minimum of six units in conducting.
 - d. All music majors will take the piano proficiency examination during the junior year. This requirement may also be satisfied by successful completion of Music 282B.
- 6. Senior transfer students entering California State College, Fullerton with a major in music, or graduate students in music entering to complete credential requirements are expected to complete a minimum of one semester of successful upper division work in music before they may be approved for directed teaching. Required courses and competencies expected of all the college music majors must be satisfied before endorsement by the faculty committee for acceptance in the credential program.
- 7. All credential candidates are required to pass functional examinations in piano and voice (in addition to the piano proficiency described in 5d above) before being approved for graduation. This requirement may also be satisfied by successful completion of Music 382 and 283B.
- All music majors will be expected to attend a weekly departmental organization class (Music 400) each semester of enrollment (maximum of eight semesters).
- 9. Any exception to a departmental requirement must be made by petition.

The Department of Music offers a variety of courses and programs leading to baccalaureate and graduate degrees in teaching and the professions. The baccalaureate degree may be earned in two degree patterns. Within these patterns, a student will normally pursue an emphasis in applied music, composition, conducting, music education or music history, theory and literature.

BACHELOR OF ARTS IN MUSIC

This program prepares students in (1) music history, theory and literature or

(2) music for elementary classroom teachers.

The music history, theory and literature emphasis is a general degree, providing suitable preparation for advanced degrees in theory, literature or musicology and basic preparation for advanced study in other fields, such as musical acoustics, music therapy, ethnomusicology, library science in music and music in industry and recreation.

The emphasis for classroom teaching is not designed for the music specialist in public schools (see Bachelor of Music). Additional coursework would be required if this emphasis is used as preparation for most graduate degrees in music.

The Bachelor of Arts in Music shall consist of no fewer than 45 units, of which at least 25 shall be in the upper division. The following minimum requirements are basic to this degree objective:

Music Requirements

Lower Division		Unit
Music Theory (Mu 111A,B, 211)	el else, electro batteriza entatan	9
Music Literature (Mu 251)	12 - 14 Disease Layrence de Now Litera	3
Applied Techniques (Ensemble 4, princip	pal performance area 4)	8
		20
Upper Division		
Music Theory (Mu 320, 321A)		5
Music History and Literature (Mu 351A	(A,B)	6
Applied Techniques (Ensemble 2, principal	pal performance area 2)	4
Specialization in the major		
opecianzación in the major		10
Music History, Theory and Literature Emphasis Units	Classroom Teaching Emphasis	Units
Music History, Theory and Literature	[20] [14] [20] [20] [20] [20] [20] [20] [20] [20	10
Music History, Theory and Literature Emphasis Units	Emphasis Mu 333	10 Units 3
Music History, Theory and Literature Emphasis Units Elective courses in music history	Emphasis	10 Units 3

Allied Requirements

Music History, Theory and Literature Emphasis	Units
1. An academic minor, with approval of the faculty adviser	20
Foreign language, preferably German, to be satisfied by one of the following:	

- (a) four years study of foreign language at the secondary school level,
- (b) a pass examination given by the Department of Foreign Languages and Literatures, or
- (c) completion of the second semester of the beginning college course in foreign language.

Classroom Teacher Emphasis

- 1. Diversified studies in academic areas appropriate for classroom teachers such as English, literature, mathematics, science, art, drama, social sciences, foreign language, and physical education and health by consultation with the major and professional advisers.
- 2. Elementary credential candidates majoring in music (B.A. in Music) are required to take Mu 599 for one unit concurrently with student teaching.
- 3. Completion of Educ 411, Educ 331 and admittance to teacher education.

BACHELOR OF MUSIC

This degree program is for the development of persons specializing in per-

formance and applied music techniques.*

The music major, professional degree program, shall consist of no fewer than 64 semester units, of which at least 32 shall be in the upper division. The following minimum requirements are basic to this degree objective:

Lower Division	Unit
Music Theory (Mu 111A,B, 211)	9
Music Literature (Mu 251)	3
Principal Performance Area	4
Major Performance Ensemble	4
Applied Techniques (by advisement)	4
Total	
Upper Division	
Music Theory (Mu 316, 320, 321A, 322A)	9
Music History and Literature (Mu 351A, B)	6
Principal Performance Area	4
Major Performance Ensemble	4
Specialization in the Major (by advisement)	17
Total	40
Total, lower and upper division	

MINOR IN MUSIC

The minor in music may be used as an appropriate area of study by persons whose majors are in other fields, or may be used to satisfy minor field requirements for elementary or secondary teaching credentials. A maximum of 12 units from the lower division may be included in work counted toward the music minor. The music minor requires a minimum preparation of 20 units.

Composite of Lower Division and Upper Division	Units
Theory of Music (selected from Mu 101, 111A,B, 211A,B or any 300- or 400-level theory classes for which student is qualified)	6
Music History and Literature (Mu 100, 251, 350 or courses at the 400- or 500-level for which student is qualified)	5-6
chestral instruments, and principal instrument or voice)	8-9
Total	20

Note: Students expecting to use the minor for teaching must complete four units of Mu 281a-d and/or Mu 381A,B Orchestral Instruments and a minimum of two units in an ensemble appropriate to their area of specialization.

MASTER OF ARTS IN MUSIC

The program of studies leading to the Master of Arts in Music provides advanced studies in breadth as well as in an area of graduate specialization. The program is further intended to provide advanced course work with a suitable balance in

^{*} This program also can prepare the student for a teaching career as a music specialist in the public elementary or secondary schools and junior colleges of California. The music education emphasis is a five year program leading toward the Standard Teaching Credential, Secondary School Teaching Specialization. Holders of this credential, secondary specialization, may teach music in either or both secondary and elementary public schools of California. For complete professional education requirements, see School of Education section. In the post-graduate year, students must complete the music education techniques block (Mu Ed 441, 442, 443 and 449) before admission to student teaching.

such music studies as theory, composition, history, literature and advanced applied techniques and music education. There are suitable graduate specializations in the

areas of history and literature and performance.

The Master of Arts in Music is especially designed for teachers and supervisors of music; persons intending to specialize in applied fields in the pursuit of occupational goals; individuals preparing for college teaching; and persons intending to pursue advanced degrees beyond the master's level.

Prerequisites for Admission to the Program

The student must have a baccalaureate degree with a major in music (or the equivalent of a major, i.e., 24 upper division courses in music). Opportunity is given the student to remove deficiencies by taking certain prescribed courses. Such courses cannot be applied to the master's degree program. The student must also take the aptitude and advanced music tests of the Graduate Record Examination and pass the graduate music placement-proficiency examinations.

Requirements for the Degree

The degree program requires 30 units of graduate study, no more than nine of which shall be outside the field of music, and at least 15 of which must be in 500-level courses in the major. The student will take Mu 500 (Introduction to Graduate Studies in Music, 2 units) within the first nine units included on the study plan in his program. The degree program offers two options: Option I in History and Literature, or Option II in Performance. A thesis or project is required in both options. In addition, in Option I the program will include at least six units of study outside the field of music, but supportive to the program. Each program is individually designed in conference with the adviser.

For further information, consult the Department of Music.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

MUSIC COURSES

100 Introduction to Music (3)

A basic approach to listening to music with understanding and pleasure through a general survey of musical literature representative of various styles and performance media. Music will be related to other arts through lectures, recordings, and concerts. Closed to music majors.

101 Music Theory for Non-Music Majors (3)

Basic theory and practical applications to further understanding of basic music principles and to improve music performance and listening skills. Includes sight-singing and relationship to keyboard and simple melodic instruments. Closed to music majors.

111A,B Music Theory (3,3)

A year course covering diatonic harmony and musicianship. Includes scales and intervals, triads and their inversions, harmonizations, nonharmonic tones, modulation and dominant seventh chords. Practical applications, to include sight singing, dictation and keyboard harmonizations. (2 hours lecture, 2 hours activity)

161a, 361a Symphony Orchestra (1)

Open by audition to college students and qualified adults in the community. Performance of standard representative symphonic works. (More than 3 hours major production) 161b, 361b College Choir (1)

Open to all college students with permission of instructor. Study and performance of standard representative choral literature works. (More than 3 hours major production)

161c, 361c Symphonic Band (1)

Open by audition to college students and qualified adults in the community. Performance of standard representative symphonic band literature. (More than 3 hours major production)

161d, 361d Opera Theatre (1)

Study of roles and representative excerpts from standard and contemporary operas and the basic musical, dramatic and language techniques of the musical theatre. Performance of operatic excerpts and complete operas. (More than 3 hours major production)

161e, 361e College Singers (1)

Membership restricted to advanced voice students or those passing voice test. Performs finest representative choral literature. (More than 3 hours major production)

161f, 361f Symphonic Winds (1)

Membership limited to advanced woodwind, brass and percussion students by audition. Performance of original literature for symphonic band and large wind ensemble. (More than 3 hours major production)

162b, 362b Wind Ensemble (1)

Open to qualified wind students by audition or consent of the instructor. Performs representative wind ensemble literature. (2 hours activity)

162c, 362c Vocal Ensemble (1)

Study and performance of choral literature of the Renaissance and Baroque periods. Open only to students by audition. Public performance required. (2 hours activity)

162d, 362d Percussion Ensemble (1)

Study and performance of music written for the Percussion Ensemble. Open to any qualified student with consent of instructor. (2 hours activity)

163, 363 Chamber Music Ensembles (1)

Open to all qualified wind, string, or keyboard students. Various ensembles will be formed to study, read, and to perform representative chamber literature of all periods. (2 hours activity)

171, 271, 371, 471 Individual Instruction (1)

Prerequisite: jury recommendation. Individual study with approved instructor with emphasis on technique and repertory. Music majors must register for a minimum of one unit per semester. Jury examination required.

182A,B Piano Class for Music Majors (1,1)

Fundamentals of keyboard technique for students whose major performance instrument is not piano. (2 hours activity)

184A,B Piano Class for Non-Majors (1,1)

Prerequisite: Mu 101. Beginning and elementary instruction in basic piano techniques for the non-music major. (2 hours activity)

211 Chromatic Harmony (3)

Prerequisite: Mu 111B or equivalent. A continuation of Mu 111A, B with emphasis on the chromatic harmonic practice of the 18th and 19th centuries. Includes secondary dominants; ninth, eleventh, and thirteenth chords; sequence, and chromatically altered chords. Practical applications to include sight singing, melodic and harmonic dictation, and keyboard practice. Required of all music majors. (2 hours lecture, 2 hours activity)

251 Survey of Musical Literature (3)

An introductory course required of majors in the study of the literature of music in Western civilization. Open to minors and qualified students by consent of instructor. Students should be able to read music as a part of the analysis of form, design and style. (3 hours lecture, 1 hour laboratory)

281a-d Orchestral Instruments (1)

Courses in this area are required of all music credential candidates. (4 hours activity)

281a String Instruments (1)

Specialization on violin, with related work on standard instruments of the string family. (2 hours activity)

281b Woodwind Instruments (1)

Specialization on clarinet, with related work on standard instruments of the woodwind family. (2 hours activity)

281c Brass Instruments (1)

Specialization on trumpet, with related work on standard instruments of the brass family. (2 hours activity)

281d Percussion Instruments (1)

Specialization on the snare drum and mallet-played instruments with related work on other standard percussion instruments. Special consideration given to typical problems encountered with percussion in the public schools. (2 hours activity)



282A,B Piano Class for Music Majors (1,1)

Prerequisite: Mu 182B or placement by instructor. Designed to meet music major minimum piano proficiency requirements for degree. Fundamentals of keyboard technique for students whose major performance field is not piano. Not required for piano majors. (2 hours activity)

283A,B Voice Class (1,1)

Prerequisite: placement by coordinator. Required of all credential candidates. Not required for voice majors. (2 hours activity)

316 16th-Century Counterpoint (2)

Prerequisite: Mu 211 or consent of instructor. Sixteenth-century counterpoint in two, three and four parts, covering motet, canon, double counterpoint. Required of all music majors pursuing the B.M. degree.

318 18th-Century Counterpoint (2)

Prerequisite: Mu 316 or consent of instructor. Eighteenth-century counterpoint in two, three and four parts, covering invention, canon, double and triple counterpoint and fugue.

320 20th-Century Harmony (2)

Prerequisite: Mu 211. A survey of the harmonic practices of the 20th century with emphasis on written exercises in the various styles. Practical applications to include sight singing, keyboard practice, and dictation. Required of all music majors. (2 hours lecture, 1 hour activity)

321A,B Form and Analysis (3,2)

Prerequisite: Mu 211 or consent of instructor. A—Analysis of structural elements of music such as motive, phrase, and period; binary, ternary, rondo, sonatoallegro and larger musical forms in representative musical works. Required of all music majors. B—Continuation of A, with emphasis on larger musical works.

322A,B Composition (2,2)

Prerequisites: Mu 316, 320 and 321A or consent of instructor. A—Ear training, analysis of smaller forms, simple composition of two- and three-part song form styles. B—Analysis and writing of more complex musical forms.

323A,B Orchestration (2,2)

Prerequisite: Mu 316 or consent of instructor. Writing and analysis of orchestral music.

333 Music and Child Development (3)

Prerequisite: Mu 101 or equivalent or successful completion of proficiency test. Study of the relationship of music to child growth and development, with emphasis on the child from 5 to 12.

341 Survey of the Symphony (3)

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of symphonic music from the 18th through the 20th centuries, with special emphasis on the relationships between musical composition and the general artistic temper of historical periods. For non-music majors only.

342 Survey of the Concerto (3)

Prerequisite: Mu 100 or consent of instructor. A study of the history and literature of the concerto from the 17th century to the present. The nature of the soloist and the social display of virtuosity will be considered. For non-music majors only.

343 Survey of Choral Music (3)

Prerequisite: Mu 100 or consent of instructor. A study of choral music through the ages, from Gregorian Chant to contemporary forms, concentrating on choral works of the great composers of the Baroque, Classical and Romantic eras. For non-music majors only.

350 Music in Our Society (3)

Prerequisite: Mu 100 or consent of instructor. Designed to increase interest and an understanding of music in its relation to our general culture. A sociological approach which includes musical criticism and journalism, concert life, audience psychology, and the political/religious/business aspects of the American musical scene.

351A,B History and Literature of Music (3,3)

Prerequisite: Mu 251. A—A study of the history and literature of music from early Greek beginnings through the Renaissance. B—A study of the history and literature of music covering the Baroque, Classic, Romantic period and the 20th century. (Required of all music majors)

353 Survey of Instrumental Music Materials (2)

Prerequisite: Mu 392A. Through examination and analysis of multiple examples of the repertory, this course is designed to develop skills in the practical use of instrumental literature for performance in secondary schools and community colleges.

381A Survey of Orchestral Instruments (2) (Formerly 281e)

A general survey of orchestral instrument practices for elementary credential candidates. (4 hours activity)

381B Survey of Recreational Instruments (2) (Formerly 281f)

A general survey of recreational instrument practices for credential candidates. (4 hours activity)

382 Piano Class (1)

Prerequisite: placement by coordinator. Required of all credential candidates. (2 hours activity)

386 Piano Accompanying (1)

Prerequisite: by audition only. The study and performance of piano accompaniments for instrumentalists, vocalists, and ensembles. Participation in rehearsals, recitals, and concerts required. (2 hours activity)

387 Church Service Playing (2)

Prerequisite: Mu 211 or consent of instructor. Transposition and improvisation of interludes and playing of hymns, chants and accompaniments. Includes characteristics of services of various denominations and a survey of suitable organ literature. Can be repeated for credit.

390A,B,C Diction for Singers (1,1,1)

Prerequisite: sophomore standing or consent of instructor. Study of proper singing diction; may not be considered a substitute for formal language study. Examples from standard vocal literature explained through the use of the International Phonetic Alphabet. A—Italian, English. B—German. C—French.

391A,B Choral Conducting (1,2)

Prerequisite: one semester of voice class or consent of instructor. A—Principles, techniques, and methods of conducting choral groups. Required of all music education majors. (2 hours activity) B—Continuation of A including laboratory work with class and vocal ensembles, using standard choral repertoire. (4 hours activity)

392A,B Instrumental Conducting (1,2)

Prerequisite: two courses from 281a-d or consent of instructor. A—Principles, techniques, and methods of conducting orchestral and band groups. Required of all music education majors. (2 hours activity) B—Continuation of A including laboratory experience in conducting instrumental groups, using standard instrumental literature. (4 hours activity)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary, applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes the practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

450 History and Literature of Instrumental Music (3)

Prerequisite: Mu 351A,B or consent of instructor. The development of instruments and instrumental forms from the Middle Ages to the present, with emphasis on the analysis of compositional techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

451 History and Literature of Vocal Music (3)

Prerequisite: Mu 351A,B or consent of instructor. A study of solo and ensemble vocal literature, including opera, from the Middle Ages to the present, with emphasis on the analysis of compositional and vocal techniques and stylistic development. (3 hours lecture and discussion, 1 hour listening)

453A,B Choral Literature and Interpretation (2,2)

Prerequisites: Mu 391A or equivalent and 351A,B. A—The study of choral literature from the Medieval, Renaissance and Baroque eras analyzed in historical perspective. Appropriate performance practices will be examined. B—Continuation of A with representative examples from the Classic, Romantic and Contemporary eras.

454 Piano Literature and Interpretation (3)

Prerequisite: Mu 351A,B and junior level piano standing. Study and performance of representative styles and schools of piano literature, particularly with reference to solo and ensemble works. (2 hours lecture, 2 hours activity)

455 Instrumental Chamber Literature and Interpretation (3)

Open to all music majors, or to non-majors by consent of instructor. Members of the class will be grouped into ensembles for demonstration purposes. Emphasis will be placed on the stylistic differences required in performing works of all periods.

456 Opera Literature and Interpretation (3)

Prerequisite: Mu 351A,B or consent of instructor. Study of all periods and nationalities, including stylistic and historical connotations.

457A Song Literature and Interpretation (2)

Prerequisite: Mu 390B or consent of instructor. Study and performance of German Lieder with representative examples of periods and styles.

457B Song Literature and Interpretation (2)

Prerequisite: Mu 390A or consent of instructor. Study and performance of Italian, French, Russian, English and American art songs, with representative examples of periods and styles.

458 Collegium Musicum Practicum (2)

Prerequisite: Mu 351A,B or consent of instructor. The study and performance of rare and old music, both instrumental and vocal. Techniques of musical research will be applied. Students should be competent performers.

467 Piano Pedagogy (2)

Prerequisite: Mu 454 or consent of instructor. Fundamentals of piano pedagogy, with reference to studio and public school teaching. Organization, materials and methods of teaching piano in beginning, intermediate, and advanced classes.

498 Senior Recital (1)

Prerequisite: consent of instructor. Intensive preparation of representative works in the principal performance area.

499 Independent Study (1-3)

Study of a special topic in Music selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

500 Introduction to Graduate Study in Music (2)

Required of all graduate music majors. Study of basic bibliography, literature, and research techniques and materials useful in graduate music study.

522 Contemporary Techniques of Composition (2)

Advanced techniques of composition, as applied to the student's area of graduate specialization.

523 Advanced Orchestration (2)

Prerequisite: Mu 323B. Analysis and practice of traditional and contemporary orchestration techniques. Scoring of music for large ensembles such as orchestra, band, chorus and orchestra, or band and orchestra.

551 Seminar in Music of the Medieval Period (2)

Prerequisite: consent of instructor. A detailed study of the music forms, structures and styles from 500 to 1450. Detailed analysis of important representative works as well as the contributions of individual composers and theoretical writers.

552 Seminar in Music of the Renaissance (2)

Prerequisite: consent of instructor. A comprehensive study of the forms, styles, and developmental characteristics of music between 1450 and 1600. Detailed analysis of selected works by representative composers and theoretical writers.

553 Seminar in Music of the Baroque Period (2)

Prerequisite: Mu 351A,B or consent of instructor. Musical forms, styles, and performance practices of the Baroque period. Detailed analysis of significant representative works.

554 Seminar in Music of the Classic Period (2)

Prerequisite: Mu 351A,B or consent of instructor. A study of the history and literature of music from approximately 1750 to 1900. Detailed analysis of important representative works.

555 Seminar in Music of the Romantic Period (2)

Prerequisite: consent of instructor. An intensive study of the structure and development of music in the 19th century. Detailed analysis of important representative works.

556 Seminar in 20th-Century Music (2)

Prerequisite: Mu 351A,B or consent of instructor. Developments in the music of western Europe and the western hemisphere since 1890. Intensive study of contemporary music and its structure.

557 Seminar in Musicology (2)

Prerequisites: at least two from the following series: Mu 551-556, and consent of instructor. Detailed investigation and systematic analysis of specific developments in musicology including exercises in transcriptions from old notations and historical investigations prepared by members of the seminar.

558 Collegium Musicum (2)

Prerequisite: consent of instructor. Advanced studies in the performance of rare and old music. (See Mu 458 for general description.) May be repeated for credit.

571 Individual Instruction (1)

Prerequisite: jury recommendation. Individual instruction with approved instructor with emphasis on performance techniques and repertory. Minimum of one unit must be taken per semester. Required of all graduate students whose terminal project is the graduate recital.

591 Advanced Choral Conducting and Interpretation (2)

Prerequisite: Mu 391B, conducting experience, or consent of instructor. Advanced problems in choral conducting techniques, with emphasis on laboratory work with student groups and in concert conducting. (4 hours activity)

592 Advanced Instrumental Conducting and Interpretation (2)

Prerequisite: Mu 392B, keyboard facility for score reading and consent of instructor. Advanced study of conducting technics through assignments with the college symphony. Interpretive problems of each period covered in lectures. (4 hours activity)

597 Project (3)

Systematic study and report of a significant undertaking in the area of musical composition, musical performance, or other related creative activity. A written critical evaluation of the work or activity will be required.

598 Thesis (3)

Individual investigations of specific problems in the area of concentration by candidates for the M.A. degree.

599 Independent Graduate Research (1-3)

Prerequisite: graduate standing in music and permission of instructor. Research and study projects in areas of specialization beyond regularly offered coursework. Oral and written reports required.

MUSIC EDUCATION COURSES

435 Music in the Modern Classroom (3)

Prerequisite: Mu 333 or consent of instructor. A survey of 20th-century materials and techniques, of recordings for creative movement to music, and of basic conducting techniques for song leading in the elementary school. Adaptation of materials for use in classroom music.

Music Education Techniques Block: *

* 441 Teaching Music Theory and Appreciation in the Public Schools (2)

Prerequisite: 20 units in music; Educ 411, or consent of instructor; admission to teacher education. Required of all music majors working for the standard teaching credential, secondary specialization. Interrelation of general and specialized classes and their place in the total school program.

* 442 Teaching Vocal Music in the Public Schools (2)

Prerequisites: 20 units in music to include Mu 391A (for those doing student aide), Educ 340, Educ 411, Educ 496, admission to teacher education, senior standing or consent of the instructor. See page 212 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials including audiovisual instruction for teaching music in the secondary schools. The history and organization of the teaching of vocal and choral music in public education. Planning sequential vocal training and performance organizations for the total school program. Study of choral literature and techniques of instruction.

* 443 Teaching Instrumental Music in the Public Schools (2)

Prerequisite: 20 units in music, Educ 411, Educ 496, admission to teacher education, senior standing or consent of instructor. Required of all music majors working for the standard teaching credential, secondary specialization. The history and organization of the teaching of instrumental music in public education. Study of music literature and appropriate curricula for the development of concert bands, symphony orchestras, and chamber music ensembles for the total school program.

444 Administration, Materials and Arranging for the Marching Band (3)

Prerequisite: Mu 323A or consent of instructor. A study of techniques, materials, administration and arranging for marching band. Includes charting for the football field, parade activities, and practical experience in the scoring of music for marching band with particular emphasis on the needs of school bands. (2 hours lecture, 2 hours activity)

530 Practicum of Research in Music Education (2)

Prerequisites: graduate standing in music; completion of Mu 500. Research techniques and procedures in music education. Students will be required to complete a creative project or research paper.

531 Foundations of Music Education (2)

Prerequisites: graduate standing in music; completion of Mu 500. Study of the philosophical and historical bases which have influenced music education in the United States. Identification of philosophic frames of leading educators, past and present. Contemporary issues and trends which affect the teaching of music in the schools. Prerequisite for all music education courses at the graduate level.

532 Seminar in Music Education (2)

Studies in the trends and application of educational theory in relation to the teaching of music in the public schools.

544 Curriculum Planning and Construction in Music (2)

Principles and practices of curriculum planning in music education, with special reference to the public elementary, junior and senior high school. Required of majors who intend to complete supervision credential.

545 Supervision and Administration of Music in the Public Schools (2)

Open to music education majors with teaching experience. Philosophy, principles and practices of supervision of music in the public elementary and secondary schools. Emphasis on modern principles of leadership, types of services, organization, management and evaluation of programs of instruction. Required of candidates for supervisory credential.

749 Student Teaching in Music in the Secondary School and Seminar (6)
Prerequisites: Mu 441, 442, 443 and Educ 449. See page 224 for description.

DEPARTMENT OF THEATRE

FACULTY

Alvin I. Keller

Department Chairman

Teri Allen, Ronald Dieb, Edwin Duerr, R. Terry Ellmore, Donald Henry, Dean Hess, Thomas Laga, La Nor Lollich, R. Kirk Mee, S. Todd Muffatti, Dwight Odle, Jerry Pickering, Robert Rence, Douglas Taylor, Marguerite VanderHoek, James Young*, Allen Zeltzer*

The Department of Theatre program includes the several fields of playwriting, oral interpretation, acting-directing, technical theatre, theatre history and theory, radio-television and dance. Specifically, the course work is arranged to provide opportunities for students (1) to develop an appreciation for the theatre; (2) to become aware, as audience or participants of the shaping force of the theatre in society; (3) to improve the understandings and skills necessary for work in the theatre as a profession; (4) to prepare for teaching theatre; and (5) to pursue graduate studies.

Theatre majors must maintain a 2.5 grade-point average in their major for graduation. In addition to course requirements, all students will usher for major produc-

tions at least once a semester.

BACHELOR OF ARTS IN THEATRE ARTS

Four course programs have been planned to meet the individual needs and interests of students working for the bachelor of arts degree with a major in Theatre Arts.

Plan I is for those who wish to study theatre as a cultural contribution or who wish to pursue graduate degrees in theatre with emphasis in theatre history and theory. It is strongly recommended that students electing this plan support the major with approved electives from art, theatre, music, foreign languages, literature, philosophy, or speech.

Plan II is designed to develop the necessary competency for pursuing theatre as a profession, or for pursuing graduate degrees in theatre with an emphasis in an area of concentration other than history of the theatre. Areas of concentration are: playwriting; acting-directing; interpretation; radio-television, technical theatre and dance.

Plan III meets the requirements of the standard teaching credential with specialization in elementary teaching.

^{*} College administrative officer.



Plan IV meets the requirements of the standard teaching credential with specialization in secondary or junior college teaching. A minor is required and will be selected with the aid of the departmental adviser.

All four plans require a minimum of 36 units in theatre with a minimum of

24 units of upper division in theatre.

In addition to the requirements listed below for the major, students must meet the other college requirements for a bachelor of arts degree. Students following Plans III and IV also must meet any specific requirements for the desired teaching credential (see section in catalog for School of Education). Graduate students who plan to meet the requirements for a standard teaching credential with specialization in secondary teaching and a major in drama must complete or be enrolled in six units in theatre as approved by the major adviser beyond the specific course requirements listed in Plan IV before they can be recommended by the Theatre Department for student teaching.

PLAN I: THEATRE HISTORY AND THEORY EMPHASIS

Lower Division: Theatre 100A,B, Introduction to the Theatre (6); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Stagecraft (3); Theatre 277, Costume Fundamentals (3) or Theatre 285A, Theatrical Makeup (2); Theatre 211, Oral Interpretation (3) 17-18

Upper Division: Theatre 370A or B, Fundamentals of Directing (3); Theatre 475A, B,C,D, World Theatre (12); Theatre 477, Contemporary Critical Techniques (3); Theatre 472, American Theatre (3); electives (3 units) 24

PLAN II: PROFESSIONAL EMPHASIS IN AN AREA OF CONCENTRATION

Lower Division: Same as in Plan I, with exception of acting, radio-television, dance and technical theatre.

Upper Division: In one of the following areas of concentration:

The major in theatre with an emphasis in oral interpretation requires a minor consisting of 21 units in comparative literature, English or speech and completion of 11 units in supportive courses from related areas such as art, anthropology, comparative literature, English literature, linguistics, speech, philosophy to be selected in consultation with the student's adviser.

in Communications Department (3); six units chosen from advanced courses in

directing, acting or technical theatre.

PLAN III: TEACHING EMPHASIS

Elementary

Lower Division: Theatre 100A,B, Introduction to the Theatre (6); Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3); Theatre 285A, Theatrical Makeup (2); Theatre 286, Design, for Theatre (3)...23

Upper Division: Theatre 311, Oral Interpretation (3); Theatre 414A or B, Reading Theatre (3); Theatre 370A,B, Fundamentals of Directing (6); Dance 374, Dance Theatre and Production (3); Theatre 402, Dramatic Activities for Children (3); Theatre 403, Children's Theatre (3); Theatre 475A,B,C or D, World Theatre (3); Theatre 478A or B. Rehearsal and Performance (1)

PLAN IV: TEACHING EMPHASIS Secondary or Community College

Lower Division: Theatre 100A,B, Introduction to the Theatre (6); Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (3); Theatre 277, Costume Fundamentals (3); Theatre 285A, Theatrical Makeup (2); Theatre 286, Design for Theatre (3) ... 23 Upper Division: Theatre 370A,B, Fundamentals of Directing (6); Theatre 386, Stage Lighting (3); Theatre 450, Theatre Management (3); Theatre 472, American Theatre (3); Theatre 475A,B,C,D, World Theatre (12)____

MINOR IN DRAMA

The minor in drama consists of 23 units, 12 of which must be in upper division: Lower Division: Theatre 211, Oral Interpretation (3); Theatre 263A or B, Beginning Acting (3); Theatre 276A or B, Beginning Stagecraft (3); Theatre 285A, Theatrical Makeup (2). Upper Division: Theatre 414A or B, Reading Theatre (3); Theatre 370A, Fundamentals of Directing (3); Theatre 475A,B,C or D, World Theatre (6).... Candidates for the secondary teaching credential who wish to minor in theatre

MASTER OF ARTS IN THEATRE ARTS

must obtain approval from the Theatre Department and must enroll for Theatre

Education 442, Teaching Theatre in the Secondary School (2).

The Master of Arts in Theatre Arts is designed to provide a program of coordinated graduate studies built on the framework of the undergraduate preparation; to provide added incentive for intellectual growth reflected in improvement in teaching and professional recognition; and to provide a sound basis for continued graduate study in the field of theatre. The student is expected to demonstrate a high degree of intellectual and creative competence and to demonstrate mastery of one of the areas of emphasis in theatre (1) theatre history, (2) dramatic literature and criticism, (3) acting and directing, (4) playwriting, (5) technical theatre, (6) oral interpretation, (7) radio and television, (8) dance, (9) children's theatre.

Prerequisites

In addition to the college requirements, students admitted to this program must have an appropriate undergraduate major in theatre, with a grade-point average of 3.0 in all upper division work in the major, or at least 24 units of appropriate upper division work in theatre, with a GPA of 3.0, before being classified. Students will complete an oral interview before being admitted to a program of studies.

Program of Studies

The degree study plan in theatre will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have 24 units in theatre, including a core of six units (Theatre 500, Introduction to Graduate Study-taken very early in the program; Theatre 597, Project; or Theatre 598, Thesis); and six units of adviser-approved supporting courses in related fields either in other departments or within the Theatre Department but outside the area of emphasis. Before the degree is granted each student will pass an oral and written examination.

For futher information, consult the Department of Theatre. See also "The

Program of Master's Degrees," page 77, and the Graduate Bulletin.

THEATRE COURSES

100A,B Introduction to the Theatre (3,3)

A study of the evolution of theatre, motion pictures, radio and television as composite arts. Emphasis is placed on the historical, dramatic, and production aspects as influenced by different cultures, traditions, and technologies. Required of all theatre majors during their freshman year.

211 Introduction to Oral Interpretation (3)

Prerequisite: Speech Communication 100, a high school speech course, or consent of instructor. A fundamentals course devoted to theory, methods, and practice in the performance of oral communication of different types of literature. (Same as Speech Communication 211)

241 Voice Production for the Actor (2)

Prerequisite: consent of instructor. Fundamental techniques, methods, and training to give the actor maximum use of his voice in theatre. Correction of speech faults and regional accents. Introduction to problems of stage dialects. Study of basic interpretative material. May be repeated for credit. (1 hour lecture, 2 hours activity)

263A,B Beginning Acting (3,3)

Laboratory practice and discussions of the form and content of the art of acting.

A—Action, motivation and circumstances of behavior on stage and television.

B—A is prerequisite to B, or consent of instructor. Problems in characterization.

(6 hours activity)

272 Understanding Theatre (3)

A nontechnical survey course for the general student leading to an appreciation and understanding of the theatre as a medium of communication and entertainment and as an art form. Field trips to certain significant productions.

276A,B Beginning Stagecraft (2,2)

Requires concurrent enrollment in Stagecraft Lab (1 unit) and Rehearsal and Performance (1 unit). Lecture prepares the student for planning, constructing, painting and operating basic scenery for the stage and television. Students will act as crew for several productions.

276A,B Beginning Stagecraft Lab (1,1)

Requires concurrent enrollment in Beginning Stagecraft lecture. Practice in the safe and efficient use of hand and power tools and standard stage equipment. Practice in reading technical drawings and building scenic items. Scenery for departmental major and class productions are used as lab projects. Student crew productions. (6 hours activity)

277 Costume Fundamentals (2)

Requires concurrent enrollment in Costume Fundamentals Lab. Principles of costume and procedures of costuming a theatrical and television production. Lecture and discussion in basic construction techniques, organizing and executing the duties of the costume crew. Designed primarily for non-tech majors within the department and as an introductory course for tech majors.

277 Costume Fundamentals Lab (1)

Requires concurrent enrollment in Costume Fundamentals lecture or consent of instructor. Practical experience in executing class project assignments and in construction and organization of costumes for actual production. (4 hours activity)

285A,B Theatrical Makeup (2,2)

Theory and practice in makeup for stage and television. Emphasis on development of individual skill in techniques of character analysis, application in pigment, plastic, hair makeup, and selection and use of makeup equipment. (4 hours—activity)

286 Design for the Theatre (3)

Prerequisites: Art 103, 104 or Theatre 276A or 276B, or consent of instructor. Study and practice in the basic principles of designing scenery for the stage and television. Work in the designing and planning of sets for theatre productions. (Same as Art 286)

290 History and Aesthetics of Motion Pictures (3)

History and development of motion pictures as an art form combining lectures, readings, discussion, and screening of films. (Same as Communications 290)

311 Oral Interpretation (3)

Prerequisite: Theatre 211 or Speech Communication 211 or consent of instructor. The principles and practice of reading aloud from the printed page. Analysis of selections from prose and poetry are emphasized. The development of voice control and projection of idea and motion, (Same as Speech Communication 311)

341 Phonetics (3)

(Same as Speech Communication 341, Linguistics 341)

363A,B Intermediate Acting and Characterization (3,3)

Prerequisite: Theatre 263. 363A is prerequisite to B, or consent of instructor. Continuation of Theatre 263A,B. Emphasis on extended and integrated speech and movement problems in characterization. Encouraging the student to begin development of style and ensemble acting. Laboratory scenes, extensive analysis and exploration. (6 hours activity)

364 Seminar in Writing (3)

Prerequisite: evidence of student's previous interest in creative writing and consent of the instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work, as it relates to playwriting. May be repeated for credit. (Same as English 364)

370A,B Fundamentals of Directing (3,3)

Prerequisite: A, prerequisite to B. Consent of instructor. The study of prerehearsal problems and procedures, of the structural analysis of plays, and of composition, picturization, pantomimic dramatization, movement, and rhythm onstage and in television. Practice in directing scenes. (6 hours activity)

376A,B Advanced Stagecraft (2,2)

Requires concurrent enrollment in Advanced Stagecraft Lab (1 unit) and Rehearsal and Performance (1 unit). Lecture prepares student to plan and execute complex scenery and sound for stage and television. Special analysis will be placed on new materials and techniques within the field.

376A,B Advanced Stagecraft Lab (1,1)

Requires concurrent enrollment in Advanced Stagecraft lecture or consent of instructor. Special construction and rigging problems are executed as they appear in production. The scenery for departmental major and class productions are used as laboratory projects. Students are crew heads for the productions. (6 hours activity)

377A,B Stage Costuming (2,2)

Requires concurrent enrollment in 377A,B Stage Costuming Lab. A—History of costume for the stage; a chronological study of fashions and textiles of major historical periods, methods of costume research, and the means of interpreting historical costume for theatrical statement. B—A study of the techniques of designing and constructing costumes of various historical periods, with emphasis on creative planning.

377A,B Stage Costuming Lab (1,1)

Requires concurrent enrollment in Stage Costuming lecture or consent of instructor. Practical experience in solving advanced problems in costume design, construction, and organization through participation in major productions of the department. (4 hours activity)

380 Introduction to Radio and Television (3)

The history and development of the broadcasting industry and its impact and influence on our society. A study of the basic broadcasting practices, audiences, production and programming. (Same as Communications 380)

381 Radio and Television Announcing (3)

Prerequisite: Theatre 211 or consent of instructor. Theory and practice of control room operation. Lectures and practice in microphone and camera techniques, commercial announcements; interviewing, sportscasting, narration, foreign pronunciations, and continuity. (6 hours activity)

382 Television Dramatic Techniques (3)

Prerequisite: Theatre 370 or consent of instructor. Survey of the development and trends in television techniques and production. Primarily for theatre majors to train the director, actor and designer in the elements of televised drama.

383 Television Writing (3)

Study of the principles and practices and experience in the writing of scripts and other forms of continuity for television.

386 Stage Lighting (3)

Prerequisites: Theatre 276A,B or equivalent. Theory and practice in stage lighting and television presentations. Emphasis is given to design and the technology for its illumination. (More than 6 hours activity)

401A,B Criticism of the Arts (3,3)

Prerequisite: senior or graduate standing in the School of the Arts. Other majors by consent of instructor. 401A is prerequisite to 401B except by consent of instructor. Criticism which in the first semester will develop criteria and vocabulary applicable to criticism in the visual and performing arts through lectures, readings, discussions, and attendance at exhibits and performances. Emphasis on oral and written skills in the communication of artistic concepts and critical evaluations. Second semester emphasizes practical aspects of writing newspaper reviews and speculative essays based on musical concerts, dramatic productions, and exhibits of visual arts.

402 Dramatic Activities for Children (3)

Theory and practice in the use of creative dramatics, storytelling, puppetry, assembly programs, role-playing, and other aspects of dramatics as tools for the teacher, group worker, recreation major, and others who work with children.

403 Children's Theatre (3)

Prerequisites: Theatre 263A or B; 276A and 370AB or equivalent; or consent of the instructor. Theories and principles of production in the formal theatre arts for children. Analysis and evaluation of appropriate theatrical forms.

411A Oral Interpretation of Prose Literature (3)

Prerequisite: Theatre 211 or 311 or consent of instructor. The oral interpretation of prose literature. Emphasis will be upon the application of relevant critical techniques to close study of various types of prose literature and to the development of oral interpretation skills appropriate to these types.

411B Oral Interpretation of Poetry (3)

Prerequisite: Theatre 211 or 311 or consent of instructor. The oral interpretation of poetic literature. Emphasis will be upon the application of critical techniques to close study of various types of poetry and to the development of appropriate oral interpretation skills.

411C Oral Interpretation of Drama (3)

Prerequisite: Theatre 211 or 311 or consent of instructor. The oral interpretation of drama. Emphasis will be upon the application of relevant critical techniques to the drama and upon the development of oral interpretation techniques appropriate to drama.

414A,B Reading Theatre (3,3) (Formerly 314A,B)

Prerequisite: Theatre 311 (or Speech Communication 311) or Theatre 363A or B. Oral reading in which the emphasis is placed through activity, on group and individual reading of literature. The first semester will emphasize modern and contemporary literature and the second semester will include selections from Elizabethan, Renaissance and/or Romantic periods. (6 hours activity)

450 Theatre Management (3)

Prerequisite: consent of instructor. Discussion and practice of the basic elements of public relations as applied to theatre with a detailed analysis of various advertising mediums and experimentation in their use. A study of the various financial aspects of academic, community, and professional theatre operations including practical experience in front-of-the-house management and box office operation through the department's public presentations. (6 hours activity)

463A,B Advanced Acting (3,3)

Prerequisite: Theatre 363A,B. 463A is prerequisite to B, or consent of instructor. A study of historical theories and techniques of styles of acting as an art form. The first semester will include Greek through Renaissance periods and the second semester will include the Neoclassic periods to contemporary styles. (6 hours activity)

468 Experimental Theatre (3)

Prerequisite: consent of instructor. Cannot be taken concurrently with Theatre 478AB. An activity course in which dramatic principles are applied through production of full length and one-act plays using various styles of acting and staging. May be repeated up to six units for credit. (More than 3 hours production per unit)

470A,B Directing (3,3)

Prerequisites: Theatre 370A,B or consent of instructor. Requires concurrent enrollment in Theatre 470A,B Lab. Readings in theory, analysis of scripts, and problems in directing plays for their oral and visual value as theatre.

470A,B Directing Lab (1,1)

Prerequisites: Theatre 370A,B or the consent of instructor. Requires concurrent enrollment in Theatre 470A,B directing lecture. A—Each student directs public performances of a one-act play. B—Each student directs public performances of two-act plays, or equivalent. (3 hours laboratory)

471 Kabuki Theatre (3)

Prerequisite: upper division standing or consent of instructor. A study of the history and development of the Kabuki Theatre, emphasizing the three types of Kabuki plays (Jidaimano, Sewamono, Shosagoto) and theories of production of Kabuki drama.

472 American Theatre (3)

Prerequisite: junior standing. The development of the art of theatre in the United States from colonial times to the present day; its place and potentialities as a force in a democratic society.

475A,B,C,D World Theatre (3,3,3,3)

Examination of the historical and dramatic evolution of world theatre. A—Ancient Greece and Rome, Middle Ages; Italian Renaissance; B—England from 1558–1790; 16th- and 17th-century Spain and France; C—18th- and 19th-century Europe and Russia; 19th-century England; D—18th- and19th-century America; the Orient; the modern world. Students registering for Theatre 475 must have completed the requirements for upper division standing.

477 Senior Seminar in Contemporary Critical Techniques (3)

Prerequisite: consent of instructor. Introduction to major contemporary modes of criticism and their application to selected plays and area productions.

478A,B Rehearsal and Performance (1-3)

Acting in stage productions, major technical assignments in stage productions, or participation in television or children's theatre productions. Any upper division or graduate student who is interested should enroll. This class cannot be taken concurrently with Theatre 468. (More than 3 hours production per unit)

480 Radio and Television Production and Direction (3)

Prerequisites: Theatre 370, 380, or consent of instructor. Theory and practice in the production of radio and television programs and announcements: the planning, organizing, directing, rehearsing, performing, recording and editing of television programs and announcements. (1 hour lecture, 4 hours activity)

486 Advanced Theatrical Lighting (3)

Prerequisite: Theatre 386 or consent of instructor. The design and technology of lighting. Student will be prepared to design for the stage, dance, pageant, display, film and television. Student will do at least one major lighting project as part of the course. (6 hours activity) (Same as Art 486)

488A,B Advanced Scene Design (3,3)

Prerequisite: Theatre 286, or equivalent beginning work in design. Lecture in scene design with emphasis on style, ornamentation and illusion leading to practical problems in designing for the stage and television. (Same as Art 488A,B)

491 Senior Seminar: Greek Tragedy (3)

(Same as Comparative Literature 491)

499 Independent Study (1-3)

Open to advanced students in theatre with the consent of the department chairman. May be repeated for credit.

500 Introduction to Graduate Study in Theatre (3)

Introduction to methodological problems in graduate research. Location of source materials, including library and original data; research and project design and execution; interpretation of researches.

139

501 Graduate Seminar: Advanced Theatre Theory and Appreciation (3)

Prerequisite: Theatre 500. Directed research with emphasis on the relationship between historical backgrounds and developments in the theatre and the student's area of concentration.

511 Graduate Seminar in Interpretation (3)

Prerequisite: consent of instructor. The historical and philosophical backgrounds in the development of interpretation and its relationship to contemporary theory and practice. (Same as Speech Communication 511)

571 Graduate Seminar: Major Writers (3)

Directed research and writing, group discussion, and lectures covering Shakespeare. The student should consult his adviser and the schedule of classes for the section appropriate to his program. (Same as English 571)

572 Production Planning in Theatre Arts (3)

History and philosophy of production problems in theatre arts. Organization of the college theatre as it relates to the total college program. Planning of the production within the limitations of budgets and physical facilities.

573 Graduate Seminar, Literary Genres (3,3)

Prerequisite: consent of instructor. As appropriate to the specialized research and publications of the instructor, this course will offer directed research and writing, group discussion and lectures covering such major literary types as: tragedy, comedy and historical drama. With consent of the adviser, this course may be repeated with different content for additional credit. (Same as English 572)

597 Project (3)

Development and presentation of a creative project in the area of concentration beyond regularly offered coursework. May be repeated to a maximum of six units.

598 Thesis (3)

Development and presentation of a thesis in the area of concentration beyond regularly offered coursework.

599 Independent Graduate Research (1-3)

Open to graduate students in theatre with the consent of the department chairman. May be repeated for credit.

THEATRE EDUCATION COURSES

442 Teaching Theatre in the Secondary School (2)

Prerequisites: Education 340, Education 411, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 212 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching in secondary schools.

484 Educational Television Production (3)

Theory and practice in the activities, methods of lesson preparation, and presentation of educational television productions.

749 Student Teaching in Theatre in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.



BUSINESS ADMINISTRATION AND ECONOMICS

SCHOOL OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: Jack W. Coleman

Department of Accounting: Robert A. Meier, Chairman

Donald Barnett, Eugene Corman, A. Jay Hirsch, Robert Vanasse, Jacob Waxman, John Williams, Dorsey Wiseman, John Woo

Department of Economics: John D. Lafky, Chairman

Seung Chul Ahn, Maryanna Boynton, John Cayton, Kwang-wen Chu, Franz Dolp, Levern Graves, Robert Harlow, Melvin Horton, Sidney Klein, Wayne Lancaster, Robert Michaels, Morris Morkre, Gary Pickersgill, Joyce Pickersgill, Jack Pontney, Guy Schick, Norman Townshend-Zellner

Department of Finance: B. E. Tsagris, Chairman

Kenneth Daane, Peter Mlynaryk, John Nichols, Frank Roebuck, Radha Sharma, Perry Stickels, Marco Tonietti

Department of Management: Donald Shaul, Chairman

Fred Colgan, Leo Guolo, William Hall, Granville Hough, Ramchand Kirpalani, Michael Lockareff, William Lyle, Leland McCloud, Kent McKee, Richard Mushegain, Forrest Pine, Ronald Smith, John Trego*, Edgar Wiley

Department of Marketing: Frank Roberts, Chairman

William Bell, Richard Buskirk, C. Dorsey Forrest, Lynn Harris, Raymond Johnson, Lawrence King, Irene Lange, William Lundstrom, Robert Olsen, Theodore Smith (Emeritus), Donald Vinson

Department of Quantitative Methods: Ben C. Edmondson, Chairman

Gerald Brown, William Busby, Wen Mou Chow, Ronald Colman, William Heitzman, James Hightower, Phillip Mitchell, Frederick Mueller, Herbert Rutemiller, David Stoller

Academic Objectives of the School

The faculty of the school believes that it can best optimize its effectiveness in achieving the broad educational objective of the college by concentrating its energies on the exploration and teaching of relevant concepts, principles and practices, including interrelationships. Additionally, the faculty recognizes the need for integrating and relating the various disciplines into a balanced and thought-provoking educational experience for the student While considerable emphasis must be placed on the need for breadth of knowledge and creativity in thought and actions, there must also be emphasis on exploration and analysis in some depth of those disciplines most relevant to the business profession. These disciplines are recognized to be interrelated and are to be integrated through the application of economics, behavioral and quantitative sciences, systems theories and concepts, decision theories, computer sciences, logic, and theoretical and applied research methodology.

In addition, the faculty of the school has set forth specific objectives for its curriculum and related programs. A summary statement of these objectives is as

follows:

1. Educational and Professional

Through a study of the various theoretical and practical business and economic models, policies and procedures, each student is to be afforded and provided with technical expertise in a chosen discipline—accounting, eco-

^{*} College administrative officer.

nomics, finance, management, marketing, quantitative methods and business education—to a depth acceptable to prospective employers for beginning professional employment.

2. Human and Ethical

A major part of effective society and business leadership is related to organization and direction of human resources to achieve general and specific goals. Therefore, a knowledge of human values—the ethical, psychological and sociological foundation for human behavior—is essential. This includes an awareness and understanding of the nature of human values, of individual goals and the forces which lead to their achievement; the function of leadership in relating individual and enterprise goals; the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process; and the need for a personal code of ethics.

3. Socioeconomic, Political and Cultural Environment

Firms do not operate in a vacuum, and information about the external forces and constraints which bear on the enterprise comprises a necessary body of knowledge for competent business planners and administrators. In particular, development of economic literacy to support rational choice; recognition of economic implications resulting from economic policy decisions by various levels of government; and a conceptualization of the impact of the various institutions on the enterprise and the impact of business leadership decisions on the social system as a whole are stressed.

Undergraduate Program in Business Administration and Economics

In our ever-expanding, complex society, the managers of tomorrow must be men and women with breadth of understanding and vision. Students who concentrate in a special area are encouraged to elect courses in other divisions of the college, particularly in the areas of the behavioral, social, and political sciences, and foreign languages. It is assumed that the first half of their college work toward a bachelor's degree represents a required basic education in communication, mathematics, a laboratory science, social science, and the humanities. Since the understanding of mathematics is becoming increasingly important in business and the social sciences, students who contemplate enrollment in either business administration or economics are encouraged to take four years of high school mathematics. College algebra, or three years of high school mathematics including a second course in algebra, will be a minimum prerequisite for entrance to the program.

If credits for either or both elementary accounting and principles of economics have not been earned, it will be necessary to enroll in these courses the first semes-

ter of the junior year.

Students enrolled in the school and working toward a college degree are subject to the general requirements of the college as to courses and credit hours required for graduation.

BACHELOR OF ARTS IN BUSINESS ADMINISTRATION

The degree requirements are as follows:

- Completion of a minimum of 50 semester credit hours in business administration and economics courses in the School of Business Administration and Economics, of which 35 semester credit hours must be upper division courses.
- Completion of at least six of the 12 units of concentration and 15 of the last 24 units are required in residence in the School of Business Administration and Economics for the B.A. degree.
- Completion of the required core courses in the School of Business Administration and Economics.
- Completion of 12 semester credit hours of required courses in an area of concentration to be selected by the student.

- 5. Completion of at least 62 semester credit hours in areas other than business administration. Students may elect to apply economics core courses outside the School of Business Administration and Economics to fulfill this requirement.
- 6. Students must attain at least a 2.0 grade point average (C average) in all college work attempted, in all courses taken in the School of Business Administration and Economics, and in his area of concentration.

CORE: The business administration and economics courses listed below are required of all students majoring in business administration:

Economics 100A,B, or 200 Principles of Economics	5
Economics 310 Intermediate Microeconomic Theory or	
Economics 320 Intermediate Macroeconomic Theory †	
Quantitative Methods 265 Computer Methods	
Accounting 201A,B Elementary Accounting	
Finance 330 Business Finance	
Management 341 Organization and Management Theory	
Management 346 Business Law	100
Marketing 351 Principles of Marketing	9
Quantitative Methods 360 Math Methods in Business and Economics	
Quantitative Methods 361 Statistical Methods in Business and Economics	
Management 449 Seminar in Business Policies *	34

AREAS OF CONCENTRATION FOR MAJORS IN BUSINESS ADMINISTRATION

A student in business administration should select an area of concentration by the second semester of the junior year and take the required courses in the area.

38-39

Accounting	Units
301A,B Intermediate Accounting	
302 Cost Accounting	3
And at least one of the following courses:	
308 Federal Income Tax	3
401 Advanced Accounting	
402 Auditing	
407 Integrated Data Processing Systems	3
Economics	
310 Intermediate Microeconomic Theory	
320 Intermediate Macroeconomic Theory	
Economics Elective, 400-level	3
Management 446 Managerial Economics	
Finance	
331 Financial Analysis	
And at least three additional courses offered by the Finance	e Department

In consonance with college and school objectives, the major goals of the Management Department are to:

1. Provide students with foundational competence in the utilization of the factors of production.

Students should ascertain departmental requirement.

Students taking business economics as their area of concentration will take Econ 410, Government and Business—in lieu of Mgmt 449, Business Policies.

Develop in each student an understanding of the theory and practices needed for successful performance in managerial and staff positions in business, gov-

ernment, and the community.

3. Provide students with a knowledge of human values—the ethical, psychological, and sociological foundation for human behavior, and the impact of group dynamics, informal organizations, and interpersonal relationships on the administrative process.

Students must choose one of the four following emphases:

Administrative Management Emphasis: Designed for students interested in all aspects of business or in general supervision of organized activity.

342 Production Operations343 Personnel Management

444 Management of Systems

446 Managerial Economics or 447 Management Decision Games

Operations Management Emphasis: Designed for students who have interest in and aptitude for managing new projects and production operations in both manufacturing and non-manufacturing.

342 Production Operations

445 Advanced Production Operations

340 Fundamentals of Behavioral Science for Management or 343 Personnel Management

446 Managerial Economics or 447 Management Decision Games

* Industrial Relations Emphasis: Designed for students interested in industrial relations or in managing labor unions as organized enterprises.

343 Personnel Management444 Management of Systems

441 Labor-Management Relations

442 Labor Law

* Behavioral Science for Management Emphasis: Designed for students interested in interpersonal relations and group leadership opportunities in all organizations but specifically found in manpower management, small business, hospital and welfare administration, and organizations carrying out social change.

340 Fundamentals of Behavioral Science for Management

343 Personnel Management

443 Dynamics of Individual, Interpersonal, and Group Behavior for Management

444 Management of Systems

Marke	ting made deserve as add to any of their baseries to speed or law
	Marketing Administration
452	Marketing Research
459	Marketing Problems
A min	imum of one of the following courses:
352	Principles of Retailing
354	Principles of Advertising
355	Credit and Credit Administration
356	Creative Motivation in Marketing
	Industrial Purchasing
358	Physical Distribution
454	Advertising Problems
	Sales Analysis and Control
458	International Marketing

The student must complete the following collateral courses for this emphasis:
Speech Communication 324 Dynamics of Small Group Discussion
Speech Communication 333 Communication in Business and Industry
Psychology 351 Social Psychology
Sociology 473 Complex Organizations

Quantitative Methods

The objective of the Quantitative Methods Department is to prepare the student to utilize quantitative information and methods effectively in evaluating alternatives and making decisions. Emphasis is placed on the theory and practice of quantitative methods, especially those topics contributed by the disciplines of statistics, operations research and computer science.

Quantitative Methods majors are required to take Math 150A,B, Calculus*

461 Advanced Statistics 463 Management Science

A major field study plan in Quantitative Methods, approved by the student's adviser, consisting of at least two courses. These courses may include any of the following, as well as approved courses in other disciplines.

Computer Science

364 Computer Logic and Programming

382 Machine Language Programming and Information Structures

446 Computer Programming Theory

464 Information Structures, Information Storage and Retrieval
 485 Programming Systems and Programming Language Processing

486 Automata Theory

487 Artificial Intelligence

Operations Research

- 448 Digital Simulation
- 465 Linear Programming
- 466 Nonlinear Programming
- 490 Stochastic Models in Business and Economics

Statistics

- 467 Quality Control
- 469 Reliability Statistics
- 475 Multivariate Analysis

BUSINESS EDUCATION

Students who wish to major in Business Administration in preparation for a career as a secondary school teacher in business subjects must meet the requirements of the School of Business Administration and Economics and the secondary school teacher education program including the requirements for the proper credential as outlined in the catalog.

The requirements for a major in this area are as follows:

- The core requirements as set forth for all business administration majors, page 144.
- 2. Twelve hours of advanced work in one of the six areas of concentration:
 - a. Accounting
 - b. Economics
 - c. Finance
 - d. Management
 - e. Marketing
 - f. Quantitative methods
- Meet the School of Business minimum requirement of 50 credit hours in business administration and economics courses.
- 4. A maximum of 12 credit hours in the secretarial field, including those applied as electives, may count toward the degree in business administration and economics.†
- Completion of at least 62 credit hours in areas other than business administration and economics are required for the degree.

^{*} Quantitative Methods majors may elect to take Math 150A,B with the credit/no credit option-† The college does not offer work in secretarial training, typewriting, or business machines. Consult the Dean of the School of Business Administration and Economics to arrange for transfer of approved courses to satisfy these requirements.

Education courses required for a credential will be detailed by the School of Education.

The requirements for a minor in this area are as follows:

	ALL STATEMENT AND FOLLOWING THE LOCALIST STATEMENT OF THE PROPERTY OF THE PARTY OF	Units
E	conomics 100A-B or 200 Principles of Economics	5-6
A	accounting 201 A-B Elementary Accounting	6
C	M 264 Computer Programming	1
	One of the following:	
	Mktg 351 Principles of Marketing 3	
	Fin 330 Business Finance3	
	Mgmt 346 Business Law 3	
	QM 265 Computer Methods	3
E	duc 442 Teaching Business in Secondary School	2
†E	lectives	6
		22-24

MASTER OF BUSINESS ADMINISTRATION

Applicants, as well as continuing students, should read carefully "The Program of Master's Degrees," page 77, and consult the Graduate Bulletin, particularly the

"Steps in the Master's Degree Program."

Note: The School of Business Administration and Economics requires that a student be classified in order to enroll in graduate courses (500-level) or receive prior permission from the associate dean for graduate programs in the School of Business Administration and Economics.

Programs of Study

The School of Business Administration and Economics offers two plans for the

M.B.A. degree.

Plan I is a broad integrated program designed primarily for students with an undergraduate degree in a field other than business administration or economics. To insure breadth in the program, the student is not permitted to take more than nine units in any one functional area.

Plan II is an integrated program allowing some concentration in an area of specialization. Under this plan the student is required to complete 12 units in an area of concentration. It is designed primarily for students with baccalaureate degrees

in business administration and economics.

The degree is earned by completion of 30 units in courses approved for graduate work with an overall grade-point average of not less than 3.0.

The M.B.A. degree can be achieved via three combinations:

a. 30 units of coursework; or

b. 27 units of coursework and an approved project; or

c. 24 units of coursework and an approved thesis.

The procedural steps for admission to, and completion of, the Master of Business Administration degree follow:

Admission as an Unclassified Graduate Student

1. Apply for admission to the college in unclassified graduate status and declare the objective to be an M.B.A. Plan I or an M.B.A. Plan II. If the student specifies the M.B.A. Plan II, he must also specify his area of concentration. This must be accomplished at the Office of Admissions and Records before the dates established in the college calendar.

2. Apply for admission to the M.B.A. program and secure informal advisement from the Graduate Office of the School of Business Administration and Eco-

[†] A maximum of six units of secretarial courses, including those applied as electives, may count toward the minor in Business Education.

nomics. The informal advisement should occur at least three weeks prior to your first registration, but in any event during the first semester of work.

Admission to Classified Graduate Status

Please contact the Graduate Office of the School of Business Administration and Economics for advisement prior to your first registration, but in any event during the first semester of residence.

Admission to classified status in the graduate program of the School of Business Administration and Economics at California State College, Fullerton requires:

1. A bachelor's degree from a fully accredited college or university.

 At least a 2.75 GPA on upper division work (the last 50 per cent of coursework) at the undergraduate level.

or

At least a 3.0 GPA on the sequential 60 semester units immediately preceding the application for classified standing, provided that these 60 units are approved by the School of Business Administration and Economics.

3. Completion of the Admission Test for Graduate Study in Business before or

during the first semester of residence with a minimum score of 450.

 Completion of all prerequisite courses (basic business core subjects) within a seven-year period prior to being classified with an overall GPA of 3.0 and with no grade lower than 2.0 (C).

5. Satisfactory completion of a comprehensive examination on prerequisite courses

(basic business core subjects).

PLAN I

Prerequisites

Acceptance into the program requires the completion of the following prerequisites or equivalent with a grade-point average of not less than 3.0.

*QM 265 Computer Methods	3
Acctg 300 Accounting Fundamentals	
Econ 300 Basic Economics	
Fin 330 Business Finance	3
Mgmt 341 Organization and Management Theory	3
Mgmt 346 Business Law	3
Mktg 351 Principles of Marketing	3
QM 361 Statistical Methods in Business and Economics	3
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Curriculum

Candidates under the M.B.A. Plan I Program are required to complete 30 units of which 6 units are electives.

Required Courses

The required courses (24 units) under this option are as follows:

†Acctg 500 Seminar in Industrial Accounting

Acctg 501 Seminar in Administrative Accounting

Econ 510 Competition, Monopoly and Public Policy

Econ 512 Comparative Economics Seminar

Fin 532 Seminar in Corporate Financial Management

Mgmt 544 Seminar in Organizational Behavior and Administration

Mktg 551 Seminar in Marketing Problems

QM 560 Operations Research or

QM 563 Quantitative Business Decision Analysis

^{*} Math 120, Elementary Probability, and QM 264, Computer Programming, will satisfy the mathematics and programming requirements of QM 265, respectively.
† Accounting majors must substitute an acceptable course for Accounting 500.

Elective Courses

In addition to the required courses, and with the approval of the graduate coordinator six units shall be selected from courses offered in the School of Business Administration and Economics at the 400 or 500 level. *Under no circumstances is* a 300 level course acceptable on the M.B.A. study plan. Further, no more than nine units (combined elective and required) may be selected from any one department.

PLAN II

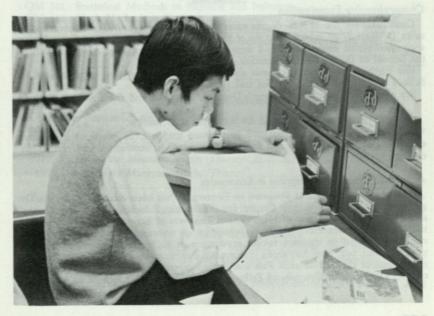
Prerequisites

Acceptance into the program requires the completion of the following prerequisites or equivalent with a grade-point average of not less than 3.0.

Acctg. 201A,B Elementary Accounting Econ 100A,B Principles of Economics	
Fin 330 Business Finance	
Agmt 341 Organization and Management Theory	
Agmt 346 Business Law	
1ktg 351 Principles of Marketing	
2M 361 Statistical Methods in Business and Economics	

In addition to the prerequisites listed above, each student will be held responsible to the department of his choice for the specialized undergraduate background (prerequisites) prescribed for that area of concentration. The area of concentration shall be selected from finance, management, marketing, and quantitative methods.

^{*} Math 120, Elementary Probability, and QM 264, Computer Programming, will satisfy the mathematics and programming requirements of QM 265, respectively.



Economics

The curriculum required of candidates under the M.B.A. Plan II is as follows:

Core

The required graduate core program in the Plan II M.B.A. shall be 18 units.

Acctg 500 Seminar in Industrial Accounting or Acctg 501 Seminar in Administrative Accounting

Acctg 501 Seminar in Administrative Accounting Econ 510 Competition, Monopoly and Public Policy or

Econ 512 Comparative Economics Seminar

Fin 532 Seminar in Corporate Financial Management

Mgmt 544 Seminar in Organizational Behavior and Administration

Mktg 551 Seminar in Marketing Problems

QM 560 Operations Research or

QM 563 Quantitative Business Decision Analysis

Concentration

In addition to the graduate core, each student shall elect an area of concentration of at least 12 units but not more than 15 units to be approved by an adviser, the department chairman concerned, and the associate dean, graduate programs. At least 24 units must be at 500 level. The remaining 6 units may be at either the 400 level or the 500 level. Under no circumstances is a 300 level course acceptable on an M.B.A. study plan.

Advancement to Candidacy

Achievement of this status requires the following:

- Completion of 12 credit hours of graduate work of which 6 units must be 500-level with a minimum grade point average of 3.0.
- Completion of an application form (in the Graduate Office) approved by the adviser, the associate dean, graduate programs, and/or the Graduate Studies Committee.

Completion

Comprehensive Examination

Candidates for the M.B.A. degree must complete the prescribed coursework of 30 units (at least 24 of which must be at the 500 level). They must satisfactorily pass a comprehensive examination and must receive the endorsement of the faculty of the School of Business Administration and Economics.

For further information, consult the associate dean, graduate programs, in the

School of Business Administration and Economics.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

BACHELOR OF ARTS IN ECONOMICS

The economics major is designed to prepare students for positions in business education, and government, and for graduate work in economics and related disciplines.

Advanced Placement Program in Economics

An Advanced Placement Program in Economics has been established by the Department of Economics, the Center for Economic Education, and the Center's affiliated Leadership Group of High School Teachers of Economics. Three semesterunits of college academic credit in principles of economics and advanced placement are offered to students taking economics in high school who enroll in the program and pass the Advanced Placement Examination in Economics given at the college at the end of each Fall and Spring semester. To enroll in the program contact Dr. Norman Townshend-Zellner, director, Center for Economic Education.

Requirements

Required of all students for the degree:

- Completion of 41 semester credit hours of courses in business administration and economics in the School of Business Administration and Economics, of which 27 semester credit hours must be in upper division courses.
- Completion of at least 15 semester hours in the School of Business Administration and Economics at the college.
- Completion of the major course requirements for economics majors, in the School of Business Administration and Economics. Students in economics are required to take Quantitative Methods 265 or equivalent as prerequisite to Quantitative Methods 361.
- Completion of at least 62 semester credit hours in areas other than business administration and economics.
- Students must attain at least 2.0 grade-point average (C average) in all college work attempted, and in all courses in the School of Business Administration and Economics.

Business administration and economics courses required of all students majoring in economics are listed below:

Lower Division	Units
Econ 200 or 100A,B Principles of Economics	
Acctg 201A,B Elementary Accounting	6
QM 265 Computer Methods	3
Total	14-15
Upper Division	
Econ 310 Intermediate Microeconomic Theory	3
Econ 320 Intermediate Macroeconomic Theory	3
Econ 420 Money and Banking	3
QM 361 Statistical Methods in Business and Industry	3
QM 360 Math Methods in Business and Economics or Math 150A Anal Geometry and Calculus.	3
Fifteen hours of upper division electives in economics approved by the dent's adviser	stu- 15
Total	30

MINOR IN ECONOMICS

A minor in economics may be achieved by taking the following courses: Economics	Units
200 or 100A,B Principles of Economics	5-6
310 Intermediate Microeconomic Theory	3
320 Intermediate Macroeconomic Theory	_ 3
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MASTER OF ARTS IN ECONOMICS

The Master of Arts in Economics is a part-time, evening (and late-afternoon) degree program, designed especially for candidates who will be employed full or part-time while working for the M.A. degree.

The procedural steps for admission to, and completion of, the Master of Arts

in Economics degree follow.

Economics

Admission Requirements

- 1. Apply for admission to the college in unclassified graduate status and declare the objective to be a Master of Arts in Economics degree. This must be accomplished at the Office of Admissions before the dates established in the college calendar.
- 2. Apply for admission to the Master of Arts in Economics program. Please read carefully page 78, and as indicated secure informal advisement from the Graduate Office of the School of Business Administration and Economics. The informal advisement should occur at least three weeks prior to your first registration, but in any event during the first semester of work. Specific admission requirements include:
 - a. An overall grade-point average in all undergraduate work of not less than 2.7.
 - b. Competency in mathematics through fulfillment of *one* of the following: Courses in college algebra and calculus; completion of California State College, Fullerton courses QM 265 and QM 360 (or equivalent); satisfactory completion of a mathematics proficiency test developed by the Department of Economics, comprising mathematical applications in economics.
 - c. Satisfactory level of performance in a written examination in economics.
 - d. Satisfactory level of performance on the Graduate Record Examination (verbal and quantitative), aptitude only.
 - e. Interview.

Prerequisites

Acceptance into the program requires the completion of the following prerequisite courses, or equivalent:

1. For students without an undergraduate major in economics (a grade-point average of not less than 3.0 in the following prerequisites is required):

Inte	rmediate Microeconom	nic Analysis	Lat spinosky mass. coc.
Inte	rmediate Macroeconon	nic Analysis	
Stat	istics (analytical)	1909 IN STANDOR IN	sayan rasido to sasou das
Mo	ney and banking		THE PERSONNEL BUILDING ASSESSMENT

2. For students with an undergraduate major in economics: 24 semester units of work in economics or related courses (e.g., statistics), with a minimum grade-point average of 3.0. The 24 units must include the following courses or their equivalent, with a minimum grade of 3.0 in each course: Intermediate Microeconomic Analysis, Intermediate Macroeconomic Analysis, Statistics (analytical), money and banking.

Program of Study

Total

1. A core of 12 graduate units in economics is required:

	Units
Economics 502	Advanced Microeconomic Analysis 3
Economics 503	Advanced Macroeconomic Analysis 3
Economics 505	Methodology in Economic Research Seminar 3
Economics 506	Seminar in Micro- and Macroeconomic
Applications	(project required) 3
on the Master	the province delical residence follows the completion

2. Electives*:

For further information, consult the associate dean, graduate programs, in the School of Business Administration and Economics.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

ACCOUNTING COURSES

201A,B Elementary Accounting (3,3)

Prerequisite: Accounting 201A must be taken before taking Accounting 201B. Accounting concepts and techniques essential to the administration of a business enterprise; accounting as a process of measuring and communicating economic information; analyzing and recording financial transactions; preparation of financial statements; analysis and interpretation of financial statements; introduction to manufacturing accounts and reports; the interaction of accounting with the areas of finance, quantitative methods, interpersonal relations, motivation, and data-information systems.

300 Accounting Fundamentals (3)

Open only to graduate students. The basic fundamentals of accounting as they apply to the accumulation, organization, and interpretation of financial and quantitative data relevant to the activities of the corporate business enterprise. The interaction of accounting with the areas of finance, interpersonal relations, motivation, and data-information systems. The fund flow statement.

301A,B Intermediate Accounting (3,3)

Prerequisite: Accounting 201B. The quantification, recording, and presentation of balance sheet and income statement items with particular emphasis on the corporate type of organization; statement of application of funds; cash flow statement; basic concepts of accounting theory; interpretation of financial statements.

302 Cost Accounting (3)

Prerequisite: Accounting 201B. The development of accounting information for management of manufacturing enterprises; cost records; cost behavior and allocation; standard costs; and an introduction to cost control.

303 Governmental Accounting (3)

Prerequisite: one course in accounting. A consideration of the accounts and reports of nonprofit institutions, municipalities, state and federal governments; organization, procedures, budgets.

^{*} If nine or more units are taken in fields outside economics in elective areas c. and d., then three of these units must be at the graduate level.

Accounting

304 Managerial Accounting (3)

Prerequisite: Accounting 201B. This course is intended for students whose area of concentration is not accounting. Analysis, interpretation, and application of accounting information for managerial decision making; budgets and budgetary control; special-purpose reports; differential cost analyses.

307 Distribution Costs (3)

Prerequisites: Accounting 201B and Marketing 351. The development of quantitative measures for marketing activity; costs of distributing through different channels of distribution, advertising vs. personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards. (Same as Marketing 457)

308 Federal Income Tax (3)

Prerequisite: Accounting 201B. Basic consideration of the history, theory, and accounting aspects of federal income taxation.

401 Advanced Accounting (3)

Prerequisite: Accounting 301B. A study of partnerships, statements for special purposes, receiverships, consolidated financial statements, branch accounting and foreign exchange.

402 Auditing (3)

Prerequisites: Accounting 301B and 302. Nature of an audit, auditing standards and procedures, audit reports; professional ethics and responsibilities of the independent public accountant; introduction to internal auditing.

406 Cost Control (3)

Prerequisite: Accounting 302. A study of current and persistent problems in cost accounting; theories of cost allocation and absorption; flexible budgeting; responsibility accounting; and distribution cost control.

407 Integrated Data Processing Systems (3)

Prerequisites: Accounting 201B or 300 and QM 264 or 265. Integrated systems for the collection, processing, and transmission of information; aspects of the information service function; feasibility studies; case studies of operating systems.

408 Problems in Taxation (3)

Prerequisite: Accounting 308. Research in problems of taxation with emphasis on income taxes as they relate to corporations, partnerships and fiduciaries.

409 C.P.A. Problems and Theory (3)

Prerequisite: Accounting 401, or consent of the instructor. Selected problems and questions as found in the uniform C.P.A. examination; preparation, analysis and revision of financial statements; assets, liabilities and ownership equities; income determination; cost accounting; governmental and institutional accounting; accounting theory.

499 Independent Study (1-3)

Prerequisites: senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

500 Seminar in Industrial Accounting (3)

Prerequisites: Accounting 201B, or 300, graduate standing and consent of the instructor. Accounting information for industrial management; elements of manufacturing cost; cost systems; standard costs; cost reports; distribution cost analysis.

501 Seminar in Administrative Accounting (3)

Prerequisites: Accounting 302, or 304, or 500, graduate standing and consent of the instructor. Accounting, financial, and other quantitative data for managerial decision-making; long-term and short-term profit planning; budgetary control; cost analysis and special reports; financial analysis and planning; the financial and taxation aspects of business decisions.

502 Seminar in Accounting Theory (3)

Prerequisites: Accounting 301B, graduate standing and consent of the instructor. The concepts and theory of accounting; the effects of professional, governmental, business, and social forces on the evolution of accounting theory.

503 Seminar in Contemporary Financial Accounting Problems (3)

Prerequisite: Accounting 502. A critical examination of the current problems and areas of controversy in financial accounting.

504 Seminar in Contemporary Managerial Accounting Problems (3)

Prerequisites: Accounting 500 or 302, graduate standing and consent of the instructor. A critical examination of the current problems and areas of controversy in managerial accounting.

505 Seminar in Auditing (3)

Prerequisites: Accounting 402 and graduate standing. Auditing theory and practices; professional ethics; auditing standards; SEC and stock exchange regulations; auditor's legal liability; statement trends and techniques.

597 Project (3

Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (3)

Prerequisites: graduate standing, the consent of the instructor, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

BUSINESS ADMINISTRATION COURSES

497 Business and Economic Research (3)

Prerequisites: business administration core, senior standing and consent of instructor. For advanced students who wish to investigate business and economic problems in specialized areas. Application of research methods: selection and identification of a problem, determining a method of approach, collection and analysis of relevant data, eliciting conclusions and solutions.

595 Modern Capitalism (3)

Prerequisites: graduate standing and consent of instructor. The changing role of capitalism and its control in the United States, European countries and Japan. The trends as to Government policy and action, relative to private ownership and coordinated economic planning.

ECONOMICS COURSES

100A Principles of Economics (3)

The first half of a two-semester sequence. An introduction to the principles and analysis of economic policy. Emphasizes economic stability and growth and the role of public policy.

100B Principles of Economics (3)

The second half of a two-semester sequence. Continuation of an introduction to the principles of economic analysis and policy including the central problem of scarcity. Emphasizes resource allocation and income distribution, international economics, comparative economic systems, and the role of public policy.

200 Principles of Economics (5)

Prerequisite: open only to junior transfers. (Duplicates 100A,B). An introduction to the principles of economic analysis and policy including the central problem of scarcity, basic economic institutions of the United States, resource allocation and income distribution, economic stability and growth, and the role of public policy.

201 The American Economy (3)

A survey of the basic economic concepts and processes of a private enterprise economy. Included is a consideration of such topics as resource allocation, income distribution, problems of economic stability and growth and the appropriate role of government in a private enterprise society. Not open to students majoring in business administration and economics.

300 Basic Economics (3)

Open only to graduate students. A concentrated study of the principles of economic analysis and policy and the basic economic institutions of the United States.

310 Intermediate Microeconomic Analysis (3)

Prerequisite: Economics 100A,B or 200 or equivalent. An analysis and evaluation of (1) rational decisionmaking behavior of consumers and firms and (2) price and output determination in markets; with special emphasis placed on the use of cases and problems to illustrate the application of the analysis to the contemporary scene.

320 Intermediate Macroeconomic Analysis (3)

Prerequisite: Economics 100A,B or 200 or equivalent. The explanation and evaluation of the determinants of the level and fluctuations of such economic aggregates as national income and employment, with stress placed on the use of problems involving the application of analytical tools to modern macroeconomic issues.

330 Comparative Economic Systems (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. An analytical comparison of unplanned and planned systems of economic organization as to their theoretical foundations, existing economic institutions, and achievements and failures; capitalism, socialism, communism, and fascism will be examined as exemplified by the United States, England, Russia and prewar Germany.

331 The Soviet Economy (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. An analytical evaluation of Soviet economic development including the structure and performance of the Soviet economy and problems of planning and control.

332 Economic Problems of Asia (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. Analysis of the natural resources, population, agricultural, industrial, transportation, communications, monetary, banking, etc. problems of Asia, i.e. China, Japan, etc. and the Asian subcontinent. The relations of non-economic problems to the economic is considered in detail.

333 Economic Development: Analysis and Case Studies (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. An examination of the processes of economic growth with special references to developing areas. Considers capital formation, resource allocation, relation to the world economy, economic planning and institutional factors, with appropriate case studies.

334 Economics of Poverty, Race and Discrimination (3)

Prerequisite: Economics 100A,B or 200 or equivalent; Economics 201 will be accepted as the prerequisite with permission of the instructor. An economic analysis of the problems and policies dealing with poverty, race and discrimination. A field investigation or project is required of each student.

350 American Economic History (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. The development of American economic institutions with special emphasis on economic problems, economic growth, and economic welfare.

351 European Economic History (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. The evolution of European economic institutions and their relation to the development of industry, commerce, transportation, and finance in the principal European countries.

360 Economics of Location (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. The theory and principles underlying the location of economic activity.

361 Urban Economics (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. Theory and analysis of the urban economy, urban economic problems and policy.

365 Public Finance (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. A study of government finance at the federal, state, and local levels with particular reference to administrative problems of public finance, the ethical aspects of taxation, and the impact of taxation and spending on resource allocation and income distribution.

370 Economics of Research, Development and Technological Change (3)

Prerequisite: Economics 100A,B, or 200 or equivalent. Examination of the importance of R & D and technological change in the economy; concepts, issues, and major figures in the study of economics of technology; analytical techniques for the assessment of technological change; and evaluation of the impacts of technological change.

410 Government and Business (3)

Prerequisite: Economics 310. An economic study of business organization, conduct and performance followed by an analysis of the rationale and impact of public policy on various segments of business and business activities, including the regulated industries, sick industries, and antitrust policy.

411 International Trade (3)

Prerequisite: Economics 310. An examination of the theory or international trade and the means and significance of balance of payments adjustments, with an analysis of past and present developments in international commercial and monetary policy.

412 Labor Economics (3)

Prerequisite: Economics 310. An analysis of the basic economic and institutional influences operating in labor markets. Considers relevant aspects of resource allocation, income distribution, economic stability, and growth.

420 Money and Banking (3)

Prerequisite: Economics 320. A study of the structure and operation of commercial banks and financial institutions including a consideration of the impact of money and capital market developments on economic activity. (Same as Finance 324.)

421 Monetary and Fiscal Policy (3

Prerequisite: Economics 320. A study of the techniques of monetary and fiscal policy and an appraisal of their relative roles in promoting economic stability and growth.

440 Introduction to Econometrics (3)

Prerequisites: Economics 310, 320 and QM 360 or Math 150A. Development of advanced statistical methods and their application in economic research. Advanced concepts in model building; development of different types of economic models. The use and effect of economic models in public policy.

441 Introduction to Mathematical Economics (3)

Prerequisites: Economics 310, 320 and QM 360 or Math 150A. Selected topics in economic theory, drawn from microeconomics and macroeconomics. Content varying from year to year but with emphasis on constrained optimization problems and rational decision making.

450 History of Economics Thought (3)

Prerequisites: Economics 310 and 320. A study of the development of economic thought as reflected in the evolution of major schools of thought and of leading individual economists as they influenced economic thought and policy.

499 Independent Study (1-3)

Prerequisites: economics major or concentration, senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

502 Advanced Microeconomic Analysis (3)

Prerequisites: Economics 200 or 100A,B, and 310. An advanced theoretical formulation of the principles of the determination of prices and outputs of goods and productive services in a market system. Topics include: consumer choice, demand, production, cost, the equilibrium of the firm and the market, and distribution.

503 Advanced Macroeconomic Analysis (3)

Prerequisites: Economics 200 or 100A,B, and 320. Advanced theory of the determination of the level and fluctuations of real and money income, and the forces underlying economic growth.

505 Methodology in Economic Research Seminar (3)

Prerequisites: Economics 502 or 503 and concurrent enrollment in Economics 503 or 502. A systematic examination of the philosophy and methodology of economic analysis and research. Topics include theory construction, verification and measurement, and the problems associated with policy formulation.

506 Seminar in Micro- and Macroeconomic Applications (3)

Prerequisites: Economics 502, 503, and 505. Complements the study of methodology in economic research. Students select approved topics and via independent investigation and seminar presentation and critique develop their analytical and research abilities, culminating with an acceptable paper.

510 Competition, Monopoly and Public Policy (3)

Prerequisite: Economics 300 or equivalent. Seminar devoted to an examination of the economic implications of various forms of market structure and business conduct and considers the application of public policy to various segments of business and business activities, including antitrust policy and regulation of business. (Not open to Economics M.A. candidates.)

511 Economic Problems and Public Policy (3)

Prerequisite: Economics 300 or equivalent. Seminar devoted to an examination of the nature and implication of the major economic problems facing the economy and an evaluation of current and alternative policies for their solution. Problems considered will include price level stabilization, balance of payments equilibrium, economic growth, and cyclical and technological unemployment. (Not open to Economics M.A. candidates.)

512 Comparative Economics Seminar (3)

Prerequisite: Economics 300 or equivalent. A comparative study of various analytical and prescriptive approaches to economic problems of scarcity, development, fiscal and monetary policy, planning and poverty. (Not open to Economics M.A. candidates.)

596 Selected Topics in Economic Analysis and Policy (3)

Prerequisites: Economics 200 or 100A,B, 310 and 320. Seminar: Selected topics in economic analysis and policy will be covered in depth, with special emphasis on contemporary research and materials. May be repeated for credit.

597 Projects (3)

Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing, consent of instructor, and approval by department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

FINANCE COURSES

324 Money and Banking (3)

(Same as Economics 420)

330 Business Finance (3)

Prerequisite: Accounting 201B or 200. Financing business enterprises; financial planning and control; analysis of alternative sources and uses of combinations of short-, intermediate- and long-term debt and equity. Cost of capital. Study of capital investment decisions; capital budget analysis and valuation; working capital and capital structure management. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

331 Financial Analysis (3)

Prerequsite: Finance 330. Development of techniques for internal financial control and their application to business situations. Capital costs and optimal capital investment decisions. Budgets and forecasts for projection of long-term profitable operations. Analysis of current financial models. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

333 Personal Financial Management (3)

Financial problems of the household in allocating resources and planning expenditures. Consideration of housing, insurance, installment buying, medical care, savings and investments.

334 Principles of Insurance (3)

Principles of life, casualty and liability insurance, individual and group insurance programs; methods of establishing risks and rates.

335 Security Investments (3)

Prerequisite: Finance 330. Principles underlying the selection and management of portfolios, analysis of different types of securities; the role of mutual funds, investment trusts and other investment institutions. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

336 Principles and Practices of Real Estate (3)

Survey of urban real estate principles and practices; structure and growth of cities; economic implication to real estate markets. Trends and factors affecting real property values, real estate financing and real estate law. Integrative cases and projects. Study of current urban models used in urban development. Group problems and case studies.

401 Real Estate Research (2)

Prerequisites: Finance 336 and 437 or 438 and concurrent enrollment for 1 unit of Finance 499. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

425 Commercial Bank and Financial Institution Management (3)

Prerequisites: Finance 330 and 331. Application of analytical techniques to the solution of financial institution problems. Major financial intermediaries and the broad range of decision-making problems they face: function, management operations, loan analysis, investment policies, and liquidity problems. Regulation and its effect on management operations. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

431 Capital and Money Markets (3)

Role of capital and money markets in the American economy; markets for new corporate and government issues; secondary markets; interrelation of financial institutions; factors influencing yields and security prices.

433 Problems in Business Finance (3)

Prerequisite: Finance 331. Comprehensive case studies including group problems of estimating funds requirements, long-term financial planning, controlling and evaluating cash flows, and financing acquisitions and mergers. (2 hours lecture, 2 hours activity)

435 Security Analysis (3)

Prerequisite: Finance 335, or consent of instructor. An advanced securities analysis course (with computer applications) developing various models of security valuation. A simulated portfolio management game is played during the latter part of the course.

437 Real Estate Finance (3) (Formerly 337)

Prerequisite: Finance 336 or consent of instructor. Sources and uses of capital in financing real estate transactions. Financial institutions and their effect on credit. Money and capital market conditions and their effect on credit availability and cost. Instruments of real estate finance. Real estate as an investment medium. Group problems and case studies.

438 Real Estate Valuation (3) (Formerly 338)

Prerequisite: Finance 336 or consent of instructor. Theory of real property value, historical development; methods used in urban and rural property appraisals; special purpose appraisals. Group problems, laboratory work as determined by computer terminal availability. (2 hours lecture, 2 hours laboratory)

439 Social Insurance (3)

Prerequisite: Finance 330. Financial problems and policies in old age pensions, health insurance, unemployment insurance, workman's compensation, and private pension plans.

499 Independent Study (1-3)

Prerequisites: senior standing and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

532 Seminar in Corporate Financial Management (3)

Prerequisites: Finance 433 or consent of instructor. Emphasis in this course is on the analysis of the financial decision-making process. Areas of emphasis include: management and control of current assets; evaluation of cash flows; financial forecasting and fund requirements; capital budgeting; cost of capital; dividend policies; and merger, acquisition, and valuation problems. Current financial theory and models. Case studies and seminar presentations.

533 Seminar in Financial Administration (3)

Prerequisite: Finance 532. Optimal financing and asset administration; advanced techniques of capital budgeting; application of analytical methods to the administration of the finance function of the business firm.

Management

534 Seminar in Financial Markets (3)

Prerequisites: Finance 431 or consent of the instructor. Structure and operation of major financial institutions; portfolio composition, price-cost problems, and market behavior; analysis of financial intermediation and interrelation of financial institutions and markets.

535 Seminar in Investment Management (3)

Prerequisite: Finance 435 or consent of instructor. Problems of investment and portfolio management; concepts of risk evaluation and investment criteria; analysis of interest rate movements; investment timing; valuation of securities; regulation of securities markets.

536 Seminar in Risk Management (3)

Prerequisites: Finance 334 and graduate standing. Techniques of risk management, structure of risk management, insurance planning and control, risk management programs.

537 Seminar in Real Estate Investment (3)

Prerequisites: Finance 330, 336 or equivalent and graduate standing. Problems of real estate investment; concepts of evaluation and investment criteria; analysis of real property values; real estate development and financing.

597 Project (3)

Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing, consent of the instructor and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

MANAGEMENT COURSES

340 Fundamentals of Behavioral Science for Management (3)

Prerequisites: general education requirements for social sciences. An analysis of interpersonal behavior of individuals and groups in organizations. Attention is given to the social environment of business and to the systematic development of knowledge about human behavior, and its implications for organizational design and management practice.

341 Organization and Management Theory (3)

Prerequisites: Economics 200, or 100A,B, or consent of instructor. Administrative processes and theories of organization; their applications in utility-creating business functions and operations. Concepts of planning and control, communication and information systems, measures of effectiveness, and interpersonal relationships. Relationship of business to the social and political environments. Management role of leadership in the creation of utility.

342 Production Operations (3)

Prerequisites: Management 341 and QM 265. Fundamentals of production systems which combine materials, labor, and capital resources to produce a good or service. Analysis of systems, models and methods for management of production operations. Product and process development. Case studies stress utilization of computer decision models.

343 Personnel Management (3)

Prerequisite: Management 341 or consent of the instructor. A study of the personnel function, its activities, and its problems. Emphasis upon management's responsibilities for selection, development, and effective utilization of personnel.

346 Business Law (3)

The philosophy, institutions and role of the law in business and society, with emphasis upon the functions of courts and attorneys, and upon case studies in the areas of contracts and corporation law.

347 Business Law (3)

Prerequisite: Management 346. The philosophy, institutions and role of the law in commercial transactions, with emphasis upon the uniform commercial code and case studies in the areas of sales, security devices, personal property, bailment and negotiable instruments.

348 Business Law (3)

Prerequisite: Management 346. The philosophy, institutions and role of the law in business relationships, with emphasis upon case studies in the areas of agency, partnership, real property, mortgages, trusts, wills, community property, insurance, suretyship and bankruptcy.

349 Real Estate Law (3)

Prerequisites: Management 346 or equivalent area; Finance 336. Law of real property; types of ownership; titles and estates; transfers of interests; encumbrances; casements; fixtures; land sale contracts; recording; zoning; leases; responsibilities of real estate brokers.

441 Labor-Management Relations (3)

Prerequisite: Management 341 or consent of instructor. The course provides an understanding of the impact of labor-management relations upon labor, management, and the public. Proper grievance procedure, collective bargaining, and the settlement of disputes are among the subjects that are examined.

442 Labor Law (3)

Prerequisites: Management 341, 346 or consent of instructor. The study of labor law and its effects upon American society. Federal and state legislation, and actions of regulatory bodies are explored by means of case studies.

443 Dynamics of Individual, Interpersonal and Group Behavior for Management (3)

Prerequisites: Management 340, 341 or consent of instructor. Case studies and current literature in the human problems of work situations. Special emphasis is focused on each participant gaining knowledge about himself: his motivation as a manager, his strengths as a communicator, areas where he can improve his interaction skills, and ways he can improve the interaction processes in groups where he serves as a leader. Laboratory work offers a practical approach to these areas. (2 hours lecture, 2 hours laboratory.)

Management

444 Management of Systems (3)

Prerequisite: QM core. The technology for managing programs, enterprises, and organizations as cybernetic systems. The course investigates the design and control of systems appropriate for product, project and program levels of analysis. (2 hours lecture, 2 hours activity)

445 Advanced Production Operations (3)

Prerequisites: Management 342 and QM core. Planning and control methodologies for production operations. Quantitative approaches which integrate cost, schedule and technical performance criteria. Collection, evaluation and use of real-time information. Individual and group projects synthesize control systems for actual cases.

446 Managerial Economics (3)

Prerequisites: QM core, Economics 310 and Management 341, or consent of instructor. A study of the relationship of management tools to applied economics and statistics in the decision-making process; the use of cases and group problems to study the true economic meaning of cost, demand, supply, price, product and competition.

447 Management Decision Games (3)

Prerequisities: business administration core less Management 449, or consent of instructor. A simulation of an oligopolistic industry to provide the student with an opportunity, through group problems, to use statistics and other analytical tools to make managerial decisions in the functional areas of management. (2 hours lecture; 2 hours activity)

449 Seminar in Business Policies (3)

Prerequisites: three elective units from among Anthropology 202, Psychology 101, and Sociology 201 or 471; Accounting 201A,B; Finance 330; Management 341, Marketing 351; QM core, senior or graduate standing, and consent of instructor. Through an analysis of integrative cases and problems from the viewpoint of top management, the student is encouraged to use his business and liberal arts training, especially his knowledge of business functions and operations, administrative processes, organization theory, and policy formulation and administration. Individual and team efforts resolve decisionmaking policies and actions.

499 Independent Study (1-3)

Prerequisites: management concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

541 Seminar in Project Operations Problem Solving (3)

Prerequisites: graduate standing and consent of instructor. A seminar designed to focus attention on application of system analysis and other dynamic techniques to current operations problems. Special projects are used to demonstrate application of concepts.

542 Seminar in Labor Relations (3)

Prerequisites: graduate standing and consent of instructor. Theories and philosophies of union-management relations in modern industrial society with attention to trends in nonindustrial organizations. Issues in collective bargaining contract administration, labor law, and government regulation. Discussion and analysis of literature.

543 Seminar in Personnel Administration (3)

Prerequisites: graduate standing and the consent of instructor. The seminar provides the graduate student with an opportunity to study cases, problems, and significant literature in the field in order to develop a comprehensive understanding of personnel administration and human relations.

544 Seminar in Organizational Behavior and Administration (3)

Prerequisites: graduate standing and consent of instructor. The analysis of human behavior in organization, studies in organizational theories, and administrative action.

545 Seminar in Research and Development Project Management (3)

Prerequisites: graduate standing and consent of instructor. Management of R&D projects. Techniques of preparing project proposals and assessing their economic worth. Project selection and review procedures based on performance, cost and marketing projections. Project programming and control. Establishing a creative environment.

548 Seminar in International Management (3)

Prerequisites: graduate standing and consent of instructor. Problems in managerial qualifications and training, political structure within and without the operations, foreign receptivity to United States business, organizing and controlling the international firm. Management in selected countries is examined.

549 Seminar in Policy Planning and Administration (3)

Prerequisites: graduate standing and consent of instructor. Planning, implementing, and controlling policy strategies to achieve objectives are considered. The executive's role in the overall operations of the enterprise and its resources are examined, and supported by cases, literature and training techniques in practice.

597 Project (3)

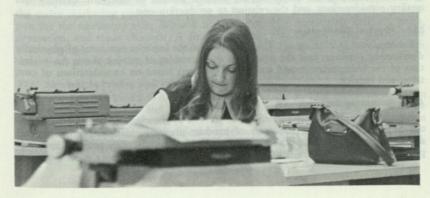
Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing, consent of instructor and approval by department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.



MARKETING COURSES

351 Principles of Marketing (3)

Prerequisite: Economics 200. Marketing organization and methods for the individual business with serious consideration of the social and economic aspects of the distribution task. Topics include the consumer, his place and his problems in the marketing area; marketing functions, institutions, and policies; legal and political environment for marketing activity; and an evaluation of the present marketing system.

352 Principles of Retailing (3)

Prerequisite: Marketing 351. Retail problems of location; organization; buying; selling media and methods; pricing; and merchandising. Emphasis will be placed upon operating procedures and control, planning, budgeting, and costs.

353 Marketing Administration (3)

Prerequisite: Marketing 351. Major problems facing the marketing executive, including product planning, pricing, market and analysis, sales potentials, marketing organization, and administration of the sales force.

354 Principles of Advertising (3)

Prerequisite: Marketing 351. The management of the advertising function, including the role of advertising in marketing strategy, budgetary considerations, allocation among media, measurement of effectiveness, administration and control, and its economic and social implications.

355 Credit and Credit Administration (3)

Prerequisite: Marketing 351. The general nature and functions of credit, credit instruments; the operation of the credit department; sources of credit information; acceptance of credit risk; establishment of credit limits; and the problem of collections.

356 Creative Motivation in Marketing (3)

Prerequisite: Marketing 351. Personal salesmanship and the application of the findings of the behavioral sciences to selling and group dynamics as they relate to the creative and promotional aspects of the business.

357 Industrial Purchasing (3)

Prerequisite: Marketing 351. The principles and practices of purchasing for industrial organizations. Major buying policies, sources of materials, quantity and quality considerations, and the relation to production cost.

358 Physical Distribution (3)

Prerequisite: Marketing 351. Consideration of the logistics problems of physically distributing products and the principles and practices of solving them. An evaluation of the transportation and storage of products based on considerations of cost, time, and service.

452 Marketing Research (3)

Prerequisites: Marketing 351 and QM 361. The application of scientific methodology as an aid in solving problems of product planning, pricing, promotion, and distribution. Practical application is emphasized through class projects and case problems. (2 hours lecture; 2 hours activity)

453 Marketing to the Government (3)

Prerequisite: Marketing 351. The marketing of defense and nondefense products to the government. The nature and administration of contractual agreements with government agencies.

454 Advertising Problems (3)

Prerequisites: Marketing 354 or consent of instructor, plus senior standing. Management of the advertising function in the marketing program. A study of the formulation of advertising policies, involving primarily an analysis of cases dealing with the role of advertising in marketing, the definition and choice of advertising objectives, strategy, appropriation policy, media selection, evaluation of advertising results, and the organization and implementation of the advertising program. Cases, simulations, and readings.

457 Sales Analysis and Control (3)

Prerequisites: Accounting 201B and Marketing 351. The development of quantative measures for marketing activity; costs of distributing through different channels of distribution, advertising versus personal selling, and movement activities; development of sales budgets, standard costs, and the analysis of actual performance in the light of budgets and standards. (Same as Accounting 307)

458 International Marketing (3)

Prerequisites: Marketing 351 and Marketing Administration 353; or consent of instructor. Presents an analytical framework for studying the development of domestic marketing systems in the context of overall economic growth. Emphasis is given to U. S. firms involved in international marketing operations.

459 Marketing Problems (3)

Prerequisite: Marketing 351, 353 and 452; or consent of instructor. Case studies of problems facing the marketing executive; identification and analysis of the problems; selection and evaluation of alternative solutions; and implementation of recommended solutions.

499 Independent Study (3)

Prerequisites: marketing concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

551 Seminar in Marketing Problems (3)

Prerequisites: Marketing 351 and graduate standing. A managerial approach to the major marketing problems faced by industry: e.g., definition of and organization for the marketing task; demand analysis; decisions concerning product, price, promotion, and trade channels. A firm's adjustment to its marketing environment with emphasis on competitive strategy. The case approach supplemented with simulations and topical readings.

552 Seminar in Pricing and Price Policy (3)

Prerequisite: Marketing 551. A critical analysis of the pricing problems of a firm with alternative choices and diverse objectives. The pricing function will be examined from the standpoints of economic theory, management science, business practices, legal constraints, and ethical considerations. Relationship of pricing objectives, policies, strategies, and methods to market behavior and the goals of the firm. Pricing policies among businesses and their economic and social implications.

Marketing

553 Seminar in Product Planning (3)

Prerequisite: Marketing 551. A course designed to assist marketing management in the formulation and execution of marketing plans for new and existing products. An examination of the management decision areas and procedures required for search, preliminary evaluation, development and testing, and commercialization of products. Particular emphasis on solving problems arising from product programs developed to assure corporate growth.

554 Seminar in Promotion (3)

Prerequisite: Marketing 551 or instructor's approval. A critical analysis of the promotion mix as employed by small, medium and large business organizations in their efforts to optimize profitable operations. Particular emphasis will be given to: determination of promotional goals, planning, budgeting, and controlling promotional programs; and measuring the effectiveness of the promotional effort.

555 Seminar in Marketing Research (3)

Prerequisites: Marketing 452 and 551 or consent of instructor. The application of scientific method to marketing decisions; research methodology and models; decision-making applications.

556 Seminar in Consumer Behavior (3)

Prerequisite: Marketing 551. A critical analysis of theories underlying consumer behavior. The orientation is on understanding and predicting consumer behavior.

559 Seminar in Marketing Thought and Concepts (3)

Prerequisite: Marketing 551. Application of theoretical concepts in the behavioral sciences, managerial sciences and quantitative methods to the development of theories and models in marketing. The emphasis is on the interdisciplinary exchange of ideas relating to marketing. Evolving concepts and theories in marketing are appraised. May be repeated for credit.

597 Project (3)

Open to qualified graduate students. Directed independent inquiry.

598 Thesis (3-6)

Open to qualified graduate students. Directed independent inquiry. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (3)

Prerequisites: graduate standing, consent of instructor, and approval by department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

QUANTITATIVE METHODS COURSES

100 Introduction to Analysis (4)

(Preparation for Calculus-same as Engineering 100)

264 Computer Programming (1)

Introduction to problem-oriented languages of computers. The solving of problems using computer programming. May be repeated for credit. (2 hours activity)

265 Computer Methods (3)

Prerequisite: college algebra or three years of high school mathematics including a second course in algebra. Introduction to sets, logic, counting, frequency distributions, and probability. Solving problems on a digital computer with a compiler language. (2 hours lecture; 2 hours activity)

280 Computer Language Survey (3)

Prerequisite: QM 264 or equivalent. A study of selected computer languages and the types of problems for which they are suited. Introduction to formal language theory. Student written programs in languages typical of the major categories: numerical, data processing, string and list processing, formal structure manipulating, multipurpose and specific task oriented. (2 hours lecture; 2 hours activity)

360 Mathematical Methods in Business and Economics (3) (Formerly 462)

Prerequisite: QM 265 or equivalent. Concepts of mathematical methods and their application to business and economic problems. Elementary mathematical optimization models.

361 Statistical Methods in Business and Economics (3

Prerequisite: QM 265 or equivalent. Collection, analysis, and presentation of statistical data. Random sampling, estimation, and hypothesis testing. Introduction to regression and correlation.

362 Introduction to Quantitative Methods in Economics (3

Prerequisites: Economics 100A, B, QM 361 and Economics 310 (may be taken concurrently). An introduction to basic mathematical tools and their application to economic theory. The nature of econometric models and the concept of identification. Estimation and evaluation of simple single equation linear models and an introduction to such problems as autocorrelation and multicollinearity. Not open to students who have taken QM 360.

364 Computer Logic and Programming (3)

Prerequisite: QM 264 or equivalent. An introductory survey of assembler language, hardware organization, design, logic, and system software of modern digital computers.

382 Machine Language Programming and Information Structures (3)

Prerequisite: QM 364. A formal discussion of information structures, the types of processes for which they are appropriate, and their relative computational efficiencies. Assignments implemented in a variety of machine languages.

446 Computer Programming Theory (3)

Prerequisites: QM 264 and Math 150A or equivalent. Selected topics of concern to the computer programmer from the fields of numerical analysis and simulation theory with FORTRAN applications.

Quantitative Methods

448 Digital Simulation (3)

Prerequisites: QM 280, and Math 336 or QM 461. A study of techniques of generating stochastic variates and their use in solving numerical problems and studying operational problems in queueing, communication, economic, inventory, scheduling, and other models.

461 Advanced Statistics (3)

Prerequisites: QM 361 and Math 150A,B, or equivalent. An advanced treatment of the theory and application of the topics covered in QM 361, using the methods of the calculus. Moments, generating functions, point and interval estimation, Neyman-Pearson and Likelihood Ratio Hypothesis Tests.

463 Management Science (3)

Prerequisites: Math 150A,B, QM 360. Introduction to the basic concepts of Management Science and its relationship to economics and decision theory. Topics surveyed include optimization in continuous models, linear programming, queueing and inventory models, dynamic programming and decision making in the business environment.

464 Information Structures, Information Storage and Retrieval (3)

Prerequisite: QM 364 or consent of instructor. An examination of modern computer hardware, the techniques of programming it, and the languages in which such programs are written. Includes discussion of memory protection, interrupt systems, recursive programming, list-structured-languages and useroriented languages.

465 Linear Programming (3)

Prerequisite: QM 361 (may be taken concurrently). The theory and applications of linear programming. Topics include: Linear programming and the Simplex Algorithm; starting procedures; the dual and economic interpretation; parametric programming and sensitivity analysis; and transportation and assignment problems.

466 Nonlinear Programming (3)

Prerequisites: QM 465, Math 281, or consent of instructor. A unified study of nonlinear programming theory with emphasis on computational algorithms and industrial applications. Topics will include: Kuhn-Tucker Theoreum, duality, quadratic programming, integer programming, dynamic programming, search techniques, and post optimality analysis.

467 Statistical Quality Control (3)

Prerequisites: QM 361. Shewhart Control Charts for variables, percent defective, and defects. Tolerances, process capacity, specized control charts, acceptance sampling, and batch processing problems. Bayesian aspects of process control.

469 Reliability Statistics (3)

Prerequisite: QM 461 or equivalent. Statistical principles of reliability; hazard functions; point and interval estimation of reliability; reliability demonstration; growth models.

475 Multivariate Analysis (3)

Prerequisite: QM 461, or equivalent. The least squares principle; estimation and hypothesis testing in linear regression; multiple and curvilinear regression models; discriminant analysis; principal components analysis; application of multivariate analysis in business and industry.

485 Programming Systems and Programming Language Processing (3)

Prerequisite: QM 382. A study of monitor, assembler, and compiler systems and the hardware, firmware, and software characteristics required in a real-time, interactive environment.

486 Automata Theory (3)

Prerequisites: QM 382 and Math 250, or consent of instructor. A formal introduction to the theory of computation and its relation to modern computing techniques. Includes development of Turing machines, recursive functions, equivalence theorems, and the algebraic theory of recognizers.

487 Artificial Intelligence (3)

Prerequisite: QM 382. Selected topics of current interest from heuristic programming, pattern recognition, learning systems, problem solving systems, and formal symbol manipulating systems.

490 Stochastic Process Models in Business and Industry (3)

Prerequisites: QM 461, Math 281, or consent of instructor. Models of industrial waiting line and storage systems. Markov chains, single and multiple server models, discrete and continuous processes, and homogeneous birth and death processes.

499 Independent Study (1-3)

Prerequisites: quantitative concentration, senior standing, and approval by the department chairman. Open to qualified undergraduate students desiring to pursue directed independent inquiry. May be repeated for credit.

560 Operations Research (3)

Prerequisites: Math 150A and QM 361. An examination of the nature and scope of Operations Research, with emphasis on the techniques of model construction. Topics surveyed include optimization in continuous models, linear programming, queueing and scheduling models, inventory models, dynamic programming, and decision making under uncertainty. (Not open to students with QM 463)

561 Seminar in Operations Research (3)

Prerequisite: QM 560, or consent of instructor. A particular topic in Operations Research, such as simulation, inventory theory, waiting line theory, or synthesis of large scale systems will be covered in depth with special emphasis on researchmethods.

563 Quantitative Business Decision Analysis (3)

Prerequisite: QM 361. Techniques from probability, statistical decision theory, and computer simulation applied to problems of management.

565 Seminar on Computers in Industry (3)

Prerequisite: consent of instructor. An examination of developments and innovations concerning computers in industry. Artificial intelligence, information retrieval, and time sharing.

566 Design of Experiments (3)

Prerequisites: QM 361 and graduate standing. A survey of the fundamentals of experimental design, including analysis of variance, factorial experiments, nested designs, confounding, and fractional replication.

597 Project (3)

Open to qualified graduate students. Directed independent inquiry.

Quantitative Methods

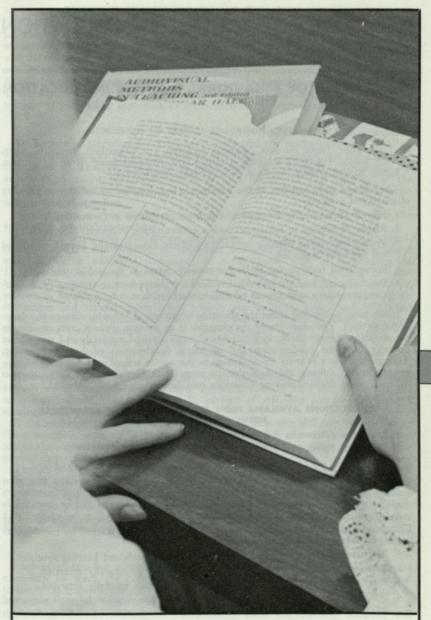
598 Thesis (3-6)

Open to qualified graduate students. Student will select and have approved a thesis topic, show evidence of original research, and must present himself for a defense of the thesis before a faculty committee.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing, and approval by the department chairman. Open to qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.





EDUCATION

SCHOOL OF EDUCATION

Dean: Eugene L. McGarry

DEPARTMENT OF BEHAVIORAL SCIENCES IN EDUCATION

FACULTY

Calvin C. Nelson Department Chairman

Marilyn Bates, James Bennett, Louis Brockmann, Ida Coppolino, James Gilmore, Betty Gould, Frederick Kingdon, Doyle Knirk, Anne Langstaff, Robert Lemmon, Lester March, Fraser Powlison, Leo Schmidt, Shirl Stark

The courses and programs of the department are designed to fulfill the following objectives of students:

- 1. Master of Science in Education with a concentration in Counseling.
- 2. Master of Science in Education with a concentration in Special Education.
- Preservice teacher training for teachers of the Educationally Handicapped and the Mentally Retarded.
- 4. Professional training for Pupil Personnel Services in the public schools.
- Psychological Foundations requirements for the preservice training of elementary, secondary, and special education teachers.

Instruction is centered about the scientific treatment of behavior change in educational settings. The objective of the program is to develop student competencies in the selection, development, application and evaluation of materials and procedures necessary for the modification and optimum development of human behavior. Though there is a primary commitment to the public school as a behavior change agency in our culture, the department's program is viewed as having application to educational decision-making situations outside the schools.

PUBLICATIONS AVAILABLE FROM THE DEPARTMENT OF BEHAVIORAL SCIENCES IN EDUCATION

- 1. Master of Science in Education, School Counseling.
- 2. Master of Science in Education, Special Education.
- 3. Preparation of Teachers of the Mentally Retarded Children Programs.
- 4. Special Education Newsletter.

PRESERVICE EDUCATION

California State College, Fullerton is accredited by the California State Board of Education for programs leading to the following credentials offered by the Department of Behavioral Sciences in Education:

- 1. Restricted teaching credential for services as a speech and hearing specialist.
- 2. Restricted teaching credential to teach the trainable mentally retarded.
- 3. Restricted teaching credential to teach the educable mentally retarded.
- Standard designated services credential with a specialization in pupil personnel services.

Details of the programs are provided in special brochures available from the Department of Behavioral Sciences in Education. Information about the professional services authorized by the above credentials will be provided by professional advisers.

PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement is available to any student seeking a credential offered by the department and a bachelor of arts degree at this college. During registration, the student should consult an adviser in the department in which he expects to major and an adviser in the Department of Behavioral Sciences in Education who will help him select courses and build his program. A student from another institution should bring transcripts of previous work and a tentative selection of courses. Transferred education courses must be of upper division level and taken within the past 15 years to be applicable to upper division credential requirements.

ADMISSION TO SPECIAL EDUCATION CREDENTIAL

To become a candidate for a teaching credential the student must be enrolled, in good standing, and must be admitted to "teacher education" in the Office of Admission to Teacher Education of the School of Education. Application for admission to teacher education should be filed during the first semester of the junior year or the first semester of attendance at the college, if the student enters with advanced standing.

Admission to teacher education is required of each student before he files the

application for student teaching.†

A faculty committee will review information concerning the applicant's intellectual resources and mastery of important concepts in the common curricular areas of higher education, command of fundamental skills of communication (English language usage, written composition, speech, hearing, reading comprehension, handwriting, mathematical skills), scholarship, personality and character, interest in teaching, and health. Data related to these criteria are gathered from transcripts and records from other schools and colleges, group and individual tests, personality inventories, estimates of the potential of the applicant, and from the Student Health Center. Students should normally qualify for admission and be advised of their status during the second semester of the junior year or their first semester of attendance if they enter with advanced standing with degrees from accredited colleges.

Students who show weaknesses in any of the fundamental skills of communication are advised of their standing. If there are weaknesses in only one or two of the areas noted above, the student will be advised of refresher courses and given a

specified time to meet the standard.

If the applicant has serious deficiencies in communication skills or does not meet the standards of mastery in the common curricular areas, personality and character, scholarship, interest in teaching, or health, the faculty committee will deny ad-

mission to teacher education.

The student must arrange to take the required battery of group and individual tests and inventories necessary to provide information needed by the faculty committee. The tests of breadth of understanding, reading, English usage, number skills, composition, handwriting, and personality are given by the School of Education for admission to teacher education; consult the Office of Admission to Teacher Education of the School of Education for dates.

STUDENT TEACHING

Each candidate for a credential to teach the mentally retarded, the restricted credential to teach the educable mentally retarded, or the restricted credential to teach the trainable mentally retarded (REX Program) will do his student teaching during the last semester of his senior year or during his postgraduate year in the college. Persons seeking the credential to teach the mentally retarded will divide their student teaching experience with elementary or secondary student teaching. Details about student teaching may be obtained from the departmental office. Student teaching assignments are made in elementary and secondary schools

[†] Exceptions will be made in the case of new transfer students.

Education

geographically accessible to the college. Students will be assigned to work under the supervision of carefully selected supervising teachers. A college supervisor will regularly visit the student teacher and the supervising teacher. Student teachers will be expected to meet in a weekly seminar with the college supervisor.

Permission to Substitute Teaching Experience for Student Teaching

A candidate for a teaching credential who has had two years of successful, regular teaching experience must petition the School of Education, through his professional adviser, for permission to substitute such experience for the student teaching requirement. Substitution of teaching experience for student teaching will be considered only if the applicant:

- 1. Has been admitted to teacher education at the college.
- 2. Has submitted an official verification from his former supervisor, principal, or superintendent to the School of Education certifying at least two years of successful, regular teaching experience at the appropriate level. A form for this verification is available in the Office of the School of Education.

STATUTORY REQUIREMENTS FOR CREDENTIALS FOR TEACHING

The curricular requirements for credentials for teaching in special education are included in the curricula descriptions. Upon the completion of the requirements, the student will submit an application for a credential to the State Department of Education in Sacramento. On these applications the student is asked about his citizenship status, his professional conduct, and he is asked to sign an oath of allegiance. He must also submit a health examination form signed by a qualified physician, two fingerprint-identification cards and the legal fee, which is currently \$20. The forms are available in the Credentials Office of the college.

Curricula in Preparation of Special Education Teachers

There are three credential programs and one non-credential program offered by the department. The credential programs include the regular mental retardation credential, the restricted credential to teach the educable mentally retarded, and the restricted credential to teach the trainable mentally retarded. The non-credential program is one leading to teaching the educationally handicapped.

Requirements for the Credential to Teach the Mentally Retarded

Students who complete the requirements for this credential are qualified to teach both the trainable and educable mentally retarded. In addition to completing the requirements in special education, the student must also complete the curriculum in either elementary or secondary education as described in pages 212 and 213. When the major is in an academic area commonly taught in the elementary or secondary schools (as appropriate), the 22 units of specialized preparation described below (not including student teaching) may be substituted for the minor. Upon successful completion of the program, the student will be recommended for the standard teaching credential with a specialization in elementary or secondary teaching with specialized preparation to serve as a teacher of exceptional children, area of the mentally retarded. Upon receipt of the credential, the student will be authorized to teach in special classes as well as in regular classes at the appropriate level.

Students desiring to prepare as teachers of the mentally retarded should proceed as follows:

- Apply for admission to special education (forms are available in the department office).
- Arrange for a personal interview with a member of the special education faculty.
- 3. Apply for admission to teacher education as described on page 206.

4. Upon completion of the necessary prerequisite courses, apply for admission to student teaching. Since students completing this program divide their student teaching experience between special education and regular education, they should apply for admission to student teaching as described on page 207. In addition, they must apply for student teaching in special education by completing the application form necessary the semester before taking the course.

Students seeking recommendations for this special credential to teach the mentally retarded should complete the courses listed below in lieu of the minor required for the Standard Teaching Credential.

	December of Sections of Courses in Benfanland Standards for t	Jni
Educ 471	Exceptional Children	3
	Mental Retardation and Brain Injury	3
Educ 474	Curriculum and Methods for Teaching the	
Mentall	y Retarded	3
Educ 475	Observation and Individual Instruction with the	
	y Retarded	3
Educ 779	Student Teaching with Mentally Retarded Pupils	4
Educ 452	Principles of Guidance	3
Speech Co	omm 403 Speech Development	3
Electives	from courses related to teaching the mentally retarded (4 units); s must be approved by the adviser	
	II Processes 555. Denoisies of Individual Relocator and Case St	-
To	tal number of units in special education not	
	acluding student teaching	22

Recommended Sequence of Courses in Professional Education for Students Preparing as Teachers of the Mentally Retarded

	Elementary	Secondary
Junior year, first semester	Educ 411 (3) Educ 496 (1)	Educ 411 (3) Educ 496 (1)
Junior year, second semester	Educ 471 (3)	Educ 471 (3) Educ 340 (3)
Senior year, first semester	Educ 331 (8) Educ 473 (3)	Educ 442 (3) Educ 473 (3)
Senior year, second semester	Educ 474 (3)	Educ 474 (3) Educ 401 (4)
Fifth year, first semester	Educ 475 (3) Speech Comm 403 (3) Electives in special education (4) Educ 401 (4)	Educ 475 (3) Speech Comm 403 (3) Electives in special education (4)
Fifth year, second semester	Educ 779 (4) Educ 739 (4) Educ 452 (3)	Educ 779 (4) Educ 749 (2) Educ 452 (3)

Requirements for a Restricted Credential to Teach the Educable Mentally Retarded

Upon completion of the requirements for this credential, an individual is qualified for service at all grade levels with service restricted to teaching the mentally retarded. Students seeking this credential must:

1. Obtain the baccalaureate degree.

2. Complete a fifth year of college work.

3. Complete 22 hours of course work in special education and related fields.
4. Complete student teaching with educable mentally retarded children.

Educ 312 is prerequisite to this credential program.

Requirements for a Restricted Credential to Teach the Trainable Mentally Retarded

Successful completion of this program qualifies the student for a credential restricted to the teaching of the trainable mentally retarded. A fifth year of study is not required; courses may be completed either as an undergraduate or a graduate student. The student does not need to complete requirements for the Standard Elementary or Standard Secondary Teaching Credential.

In addition to the completion of the requirements for the baccalaureate degree

at California State College, Fullerton or other accredited institutions, the student

must follow Plan I or Plan II listed below.

Recommended Sequence of Courses in Professional Education for Students Preparing as Teachers of the Trainable Mentally Retarded

Plan I: Recommended for students selecting program in the junior year (credential will be issued with bachelor's degree upon completion of program). Major: Recommend Psychology, Sociology, or Speech, but others are acceptable.

Junior year, first semester	Educ 411 (3)
Junior year, second semester	Educ 471 (3)
Senior year, first semester	Educ 473 (3)
	Educ 479 (6)
Senior year, second semester	Speech Comm 403 (3)
	Educ 779 (4)

Plan II: For graduate students

	to biggraphic phonographs cards and 746 legal 756 which is realist	Units
Educ 411	Psychological Foundations of Education	3
	Senior Practicum	1
Educ 471	Exceptional Children (optional)	3
Educ 473	Mental Retardation and Brain Injury	3
	omm 403 Speech Development (optional)	3
Educ 479	Seminar and Practicum in Education of the TMR	6
Educ 779	Student Teaching with the Mentally Retarded	4

The program for preparing teachers of the educationally handicapped is a graduate program. Since it leads to no credential, the student must possess either a standard elementary or standard secondary credential in order to teach the educationally handicapped. Students interested in working with these children should consult with a member of the departmental faculty in order to plan their programs. Since the curriculum is restricted to graduate students, it should appeal to persons interested in specializing in special education at the master's degree level. (See page 180 for the Master of Science in Education-Special Education)

Program Leading to the California Credential—Speech and Hearing Specialist

Students wishing to pursue the major in Speech and Hearing and to complete a fifth year for the "Restricted Teaching Credential for Services as a Speech and Hearing Specialist" (1967) should follow the major for speech for the B.A. degree with emphasis in speech pathology and audiology to be followed by a fifth year

of adviser-approved specialized preparation.

Required in the undergraduate and graduate years will be the completion of 65 semester units constituting a well-integrated program that includes 18 semester units in courses that provide fundamental information applicable to the normal development and use of speech, hearing, and language, and their relationship to the educative process, and 42 semester units in courses that provide information about and training in the management of speech, hearing, and language disorders and that provide information supplementary to these fields.

Details of this teacher education program are found on page 426. The program is administered by the Department of Speech Communication in consultation with the School of Education.

Standard Teaching Credential with Specialization in Speech and Hearing in Lieu of Minor

A major other than speech and hearing is required for the clinical speech and hearing program taken in lieu of a minor. See an adviser in the Department of Speech Communication for details of this program.

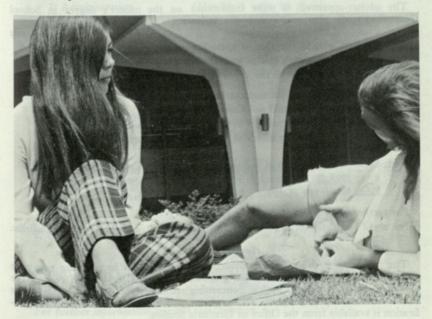
ADVANCED CREDENTIAL PROGRAMS

Pupil Personnel Services

Pupil Personnel Services offers work toward the credentials for school counseling, school psychometrists and school psychologists. (The Standard Designated Services Credential with Specialization in Pupil Personnel Services.) Students must check with an appropriate adviser to plan a program of study.

Counseling

Students begin work for the credential by taking Educ 452, Principles of Guidance. Other courses in this credential program include: Educ 550, Counseling Theories and Processes; 555, Dynamics of Individual Behavior and Case Study; 596, Graduate Educational Practicum; Individual Counseling Relationships; 551, Educational and Career Orientation; 552, Group Processes in Counseling and Guidance; 596, Graduate Educational Practicum: Group Leadership and Membership; 553, Administration and Organization of Pupil Personnel Programs; 559A,B, Fieldwork in Pupil Personnel Services: Counseling.



Psychometry

Students preparing for the psychometry credential complete the work in counseling and, in addition, include Psychology 461, Group Psychological Testing; Psychology 531, Individual Mental Testing; Educ 559 CD, Fieldwork in Pupil Personnel Services: Psychometry, and coursework in learning or behavior disorders depending on the needs of individual students.

School Psychology

Students preparing to be school psychologists add to the work in counseling and psychometry: Educ 556, Advanced Individual and Group Processes; 557, Seminar in School Psychology: A Contemporary Overview (of Professional Aspects and Problems in School Psychology); 558A,B, Fieldwork in Pupil Personnel Services: Counseling. In addition, students will be employed full time as psychometrists or do a minimum of 20 hours per week in fieldwork in school psychology.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN EDUCATION School Counseling

Students concentrating in school counseling will take Educ 452, Principles of Guidance, as soon as they identify their interest in this concentration in the M.S. Education: School Counseling degree. At or near the end of this course students are normally admitted to this program by a screening process. Students who transfer this course from other institutions must see an adviser for approval of the next course before continuing in the program. This second course becomes the screening course for transfer students.

The adviser-approved 30 units (minimum) on the master's degree in School Counseling study plan will include the following:

		Units
A	. Nine units outside the area of specialization.	9
	1. Educ 510 Research Design and Analysis (3)	
	2. Six units selected with the approval of an adviser (6)	
B.	. Twenty-one units in the concentration in counseling	21
	1. Educ 551 Educational and Career Orientation (3)	
	2. Educ 552 Group Processes in Counseling and Guidance (3)	
	 Educ 553 Administration and Organization of Pupil Personnel Programs (3) 	
	4. Educ 555 Dynamics of Individual Behavior and Case Study (3)	
	5. Educ 559A,B Fieldwork in Pupil Personnel Services: Counseling (3-	-3)
	6. Educ 597 or 598 Graduate Project or Thesis (1-3; total of 3)	

For further information, consult the chairman.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

Special Education

The following information is provided to assist students in planning programs and in seeking admission to classified graduate status. Students should consult the Graduate Bulletin for information concerning standards for graduate study, steps in the master's degree program, and graduate policies and procedures. This publication is available from the Office of Graduate Studies.

Objectives of the Degree Program:

The program is designed:

- To help individuals interpret and implement research related to exceptional children, conduct appropriate research in the classroom and/or clinical setting, become skilled in their abilities to diagnose with educational instruments and observation techniques, interpret the results of diagnostic procedures, prescribe and implement educational strategies.
- To provide teachers with competencies to enable them to fulfill the role of supervising teachers and demonstration teachers in special classes.
- To prepare individuals for positions of leadership in the field of special education.
- 4. To prepare individuals to pursue graduate work toward the doctoral degree.

Prerequisites for Admission to the Program:

- 1. A baccalaureate degree from an accredited institution.
- 2. At least 2.5 grade-point average in previous academic and related work.
- 3. An acceptable score on the Graduate Record Examination-Aptitude Test.

Steps in the Master's Degree Program (see Graduate Bulletin):

Courses Required for the Degree:

Units

- A. Nine semester hours of adviser-approved courses outside the area of special education
 - 1. 3 hours in basic research (Met by Educ 510 (3) or and Educ 509 (3))
 - 2. Administration

(Met by 6 units of adviserapproved courses)

or Clinic orientation

or

Teaching strategies

or Communication and

Interpersonal relations

Educational technology

or

Inter- and intracultural studies

B. Twenty-one semester hours of adviser-approved courses selected from the area of special education

1. 4-6 units of thesis or project

(Met by Educ 514 (3)

2. 2-5 units of practicum

(Met by Educ 572 (2-4) and/or

3. 10–15 units of special education specialization

(Met by adviser-approved special education courses at the 400 and 500 level)

Educ 496 (1-3))

Educ 597 or 598 (1-3))

For further information, consult the chairman.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

21

BEHAVIORAL SCIENCES IN EDUCATION PRESERVICE COURSES

296 Educational Practicum (1-3)

Conduct an individual educationally oriented experience with a child, youth, or young adult in an educational practicum location under the direction of a faculty member. Available to students who want or need public service experience with children, youth, or adults. Does not give credit toward any teaching credential. May be repeated for a maximum of six units of credit. Open to freshman and sophomore students. (3 hours laboratory per hour of credit)

312 Human Growth and Development (3)

Prerequisite: Psych 101. A comprehensive study of human growth and development with emphasis on childhood, adolescence, and middle and old age. Includes mental, social, emotional, and physical development.

411 Psychological Foundations of Education (3)

Prerequisites: Psych 101 and concurrent enrollment in upper division practicum or fieldwork. Prerequisite to other courses in the professional education sequence. Learning theory, thinking processes, and human growth and development. Students who have completed Psych 311 must have permission of instructor to enroll.

452 Principles of Guidance (3)

An introduction to pupil personnel services in the public school setting. The relationship of historical, sociological, psychological and philosophical foundations to principles of counseling and guidance will be explored. The course is designed to give students an opportunity to examine their interest in pupil personnel work. Students will participate in small groups and will conduct interviews. Students seeking the special education credentials will emphasize the counseling and guidance of the exceptional student. The course serves as a vehicle to screen students into the pupil personnel services program.

471 Exceptional Children (3)

Corequisite: Educ 411 (or Educ 312 for students working toward the Restricted EMR Credential). Seminar on the study of children who deviate from the average in the elementary and the secondary schools; physically handicapped, mentally retarded, gifted, socially maladjusted, emotionally disturbed, and delinquent. Special educational services, curriculum, procedures, and materials necessary to promote their maximum development.

472 Gifted Children (2)

Prerequisite: Educ 411. Identification, principles of instruction, grouping, individualized instruction, classroom enrichment. Problem solving and research experiences in science, social studies, and mathematics, reading programs and literature, creative writing, oral language.

473 Mental Retardation and Brain Injury (3)

Prerequisite: Educ 471. Organic and cultural basis of mental retardation and brain injury, including social, psychological, and vocational problems. Child growth, sensory development, learning characteristics of mentally retarded and brain injured children, and techniques of working with parents will be considered.

474 Curriculum and Methods for Teaching the Mentally Retarded (3)

Prerequisite: Educ 473. Curriculum development, methods, and materials for teaching the educable and trainable mentally retarded at the elementary and secondary levels.

475 Observation and Individual Instruction with the Mentally Retarded (3)

Prerequisite: Educ 474. Supervised observation and participation with the educable and the trainable mentally retarded at both the elementary and secondary levels of education. (4 hours activity, 1 hour lecture and discussion.)

477 The Educationally Handicapped Child (3)

Prerequisite: Educ 471. Behavioral characteristics of the educationally handicapped child, the child with a neurological handicap or a behavioral disorder as defined by the California Education Code. Educational procedures, perceptual and motor training, evaluation, parent guidance.

479 Seminar and Practicum in Education of the Trainable Mentally Retarded (6)

Prerequisite: consent of instructor. Curriculum, methods, and materials for children having severe intellectual, motor, sensory and language impairment. Emphasis will be placed on the educational management of children exhibiting handicapping conditions. (3 hours seminar and 9 hours practicum in special school facilities.)

480 Issues in Higher Education (3)

Seminar in structure, governance, administration and challenges of American higher education.

489 Fieldwork in Exceptional Children (3)

Prerequisite: Educ 471 or consent of instructor. Direct supervised experience with educationally handicapped children.

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

Prerequisite: senior or graduate standing, consent of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

GRADUATE COURSES

500 Survey of Collegiate Student Personnel Services (3)

History, philosophy, objectives, organization and administration of collegiate student personnel services. (2 hours lecture, 2 hours activity.)

514 Graduate Seminar: Behavorial Research on Children with Learning Disorders (3)

Prerequisites: Educ 510 or 511, consent of instructor, and teaching experience with exceptional children. Critical analysis of behavioral research on children with learning disorders. Resources, criteria for evaluation of studies with exceptional children, historical view of research in special education. Research relating to learning and handicapping conditions, and efficacy of special methods and materials will be reviewed.

521 Group Processes in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor. Exploration of group interaction, teacher sensitivity, and their relevance to educational planning and management. Emphasis: emotionally disturbed, educationally handicapped.

522 Behavior Problems in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor. Identification and management of social and affective disturbances related to school performance. Emphasis: early detection, behavioral modification techniques, parent counseling, interagency cooperation.

523 Learning Problems in the Classroom (3)

Prerequisite: Educ 471 or consent of instructor. Identification and educational management of learning problems. Emphasis: developmental sequences, related prescriptive teaching and remediation techniques.

550 Counseling Theories and Processes (3)

Prerequisite: Educ 452. Seminar in the dynamics of counselor and client relationships, exploration of various theories of counseling, application of theory to techniques and processes, and a study of the counseling theory in relation to personality theory. Major project and supervised practice required.

551 Educational and Career Orientation (3)

Prerequisite: admission to the Pupil Personnel Program, Educ 550 or consent of instructor. Seminar in the principles of evaluating, classifying, and disseminating occupational and educational information in the guidance program; sources of occupational literature, occupational research, vocational surveys, and methods of studying the individual as a unique whole to help him develop his greatest career potential. Emphasis on the psychological, sociological, economic, and clinical implications of career and educational choice. A major project in career information is developed under supervision.

552 Group Processes in Counseling and Guidance (3)

Prerequisite: admission to the Pupil Personnel Program, Educ 550 or consent of instructor. Seminar in the intensive study of the dynamics of group processes including the function of leadership, effective membership and techniques of group problem solving. Special emphasis on clinical group counseling including a semester project in a school setting.

553 Administration and Organization of Pupil Personnel Programs (3)

Prerequisites: admission to the Pupil Personnel Program, Educ 551 or consent of instructor. Seminar in the development, organization, supervision, and administration of the pupil personnel services. Seminar on analysis and evaluation of pupil personnel services by the case study method, curriculum, counselor competencies, staffing; includes laws relating to children and child welfare.

555 Dynamics of Individual Behavior and Case Study (3)

Prerequisites: admission to the Pupil Personnel Program, Educ 451, 550, or consent of instructor. Seminar in case conference techniques; clinical study of the techniques of individual diagnosis including the synthesis and interpretation of information. Use of the life or developmental record, self-ratings, behavior ratings and tests as they relate to counseling with the normal and abnormal pupil. Identification and remediation of learning difficulties emphasized.

556 Advanced Individual and Group Processes (3)

Prerequisites: admission to school psychology program, Educ 452, 550, 552, and concurrent enrollment in Educ 558A. An advanced course in individual counseling and advanced group process to be offered as part of the training requirements for school psychologists. Includes experience in working with faculty interaction groups in a leadership capacity. Attention will be given to the translation of theory into practice in public school and clinical settings. Lecture and practicum including school and clinical experiences.

557 Seminar in School Psychology: A Contemporary Overview of Professional Aspects and Problems in School Psychology (3)

Prerequisite: concurrent enrollment in Educ 588B. An advanced course in school psychology covering professional aspects in a contemporary setting including ethics, issues and problems, membership in professional organizations, pyschological services relationship to other school and community service, supervision of psychometrists and other specialized personnel, legislation and current and future trends in public education. Initiating and developing district level research and consultation functions of a school psychologist will be stressed.

558A School Psychology: Seminar in Problems in Personality Diagnosis (4)

Prerequisites: a clear California credential in school psychometry or psychology intern credential and admission by screening committee of Pupil Personnel Services. Seminar and internship and/or fieldwork in problems of personality assessment in the school setting, effecting changes in behavior among school pupils and personnel. Emphasizes role and function of the school psychologist in pupil personnel services. Advanced experience in the clinical case study, application of understandings of the dynamics of individual counseling and group counseling to human behavior in the school setting.

558B School Psychology: Seminar in Problems of Learning (4)

Prerequisite: Educ 558A. Seminar and internship and/or fieldwork in problems of learning and their remediation. Arvanced work in diagnostic testing, clinical interpretation of data, remediation of identified problems. Advanced work in communication including reporting, individual counseling, group counseling and case conference.

559A,B Fieldwork in Pupil Personnel Services: Counseling (2-6)

Prerequisites: Educ 551, 552, 555 and consent of instructor. Student will participate in guidance and counseling activities in his local school setting under the supervision of a local coordinator and the college staff. Work assignments are made on an individual basis. In addition to work in the field, students will meet in weekly seminar. May be repeated for credit up to a maximum of 12 units.

559C,D Fieldwork in Pupil Personnel Services: Psychometry (2-6)

Prerequisites: Educ 559A,B, admission to Psychometry Program and consent of instructor. Students will participate in psychometry activities in their local school setting under the supervision of a local coordinator and college staff. Work assignments are made on an individual basis. May be repeated for credit up to a maximum of 12 units

570 Graduate Seminar in Educational Psychology: Advanced Developmental Psychology (3)

Prerequisite: consent of instructor. Research, theory and practice in the field of child and adolescent development.

571 Graduate Seminar in Educational Psychology: Advanced Psychology of Learning (3)

Prerequisite: consent of instructor. Research, theory and practice in the field of the psychology of learning with special attention to classroom learning.

572 Psycho-Educational Clinic (2)

Prerequisites: prerequisite sequence or equivalent and consent of instructor. (Prerequisite sequence is Educ 475 or 477, 523, 570, and 571 concurrently with 572.) A clinical practicum for the purpose of developing clinical teaching skills in dealing with the learning problems of exceptional children, practice in working with formal and informal information-gathering devices, special teaching instruments, teaching systems, and teaching strategies. Students may, upon the recommendation of the instructor, repeat the course for credit one time. (6 hours laboratory)

577 Seminar in Program Trends in Special Education (3)

Prerequisites: recommendation of adviser and consent of instructor. A seminar designed for the study of historical development of educational programs for exceptional children. A critical analysis of issues and trends in special education.

578 Administration and Supervision of Special Education (3)

Prerequisite: Educ 577 or consent of instructor. Problems of organization, administration, and supervision of special education programs: finance and attendance, physical facilities, budgeting, needed equipment, community agencies and curriculum development.

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

596 Graduate Educational Practicum (1-3)

Prerequisite: consent of instructor. Conduct at a graduate level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units.

597 Project (1-3)

Prerequisites: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisites: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of the instructor. Open to qualified graduate students desiring to pursue independent inquiry.

PROFESSIONAL COURSES IN POSTGRADUATE PROGRAM

702 Guidance of the College Bound Student (3)

The study of admission to college: backgrounds, current issues and research, the admission process, scope and diversity of institutions of higher education in the United States.

778 Fieldwork in Administration of Special Education (12)

Prerequisites: Educ 577, and registration in Educ 578. Directed fieldwork in the administration of special education programs. An assignment will be made in public or private schools.

779 Student Teaching With Mentally Retarded Pupils (4)

Prerequisites: Educ 475 and concurrent enrollment in Educ 339 or 739 (for four units) or Educ 749 (for two units). Student teaching in a special class program for the educable or trainable mentally retarded at either the elementary or secondary level. (Elementary level: minimum of 30 hours a week in an elementary school; 2 hours per week in seminar. Secondary level: minimum of 15 hours a week in a secondary school; 2 hours per week in seminar.)

Students working for a Restricted EMR or Restricted TMR credential need only enroll in Educ 779 (4 units). Enrollment in Educ 339 or 739 is not required.

DEPARTMENT OF HEALTH EDUCATION, PHYSICAL EDUCATION AND RECREATION

FACULTY

Paul J. Pastor

Department Chairman

Jean Barrett, John Caine, Richard Coury, Paul Fardy, M. William Fulton, Eric Hanauer, Elmer Johnson, David Jordan, Araminta Little, Jerry Lloyd, Donald Matson, Dallas Moon, Billie Moore, Joseph O'Hara, Alexandar Omalev, Virginia Scheel, Eula Stovall, Carol Weinmann, Ronald Witchey, V. Richard Wolfe, Michael Yessis

BACHELOR OF SCIENCE IN PHYSICAL EDUCATION

The department offers a bachelor of science in physical education for students preparing to teach, for those preparing to pursue graduate work in physical education and for those preparing for careers in business, industry and government service.

The major consists of 40 units in health education, physical education and recreation, and six units of electives in upper division in supporting and related fields. Electives are to be approved by the students' departmental adviser. Requirements for the major, including proficiency requirements, prerequisite and lower division courses, are indicated below.

Proficiency Requirements for Major Students

All physical education majors must demonstrate proficiency in at least five skill areas selected from: aquatics; combatives (men); folk, social and square dance; gymnastics; individual sports; modern dance; and team sports. Activity courses should be taken to meet the prerequisite requirements for the analysis series courses. Proficiency screening tests are administered in the analysis classes at the beginning of the semester.

MAJOR IN PHYSICAL EDUCATION	a manual base
Prerequisites	Units
Chemistry 100 Introductory Chemistry	4
Physics 211A Elementary Physics	
Physical Sci 201* Modern Physical Science	4
Biological Sci 101 Elements of Biology	5
Biological Sci 361 Mammalian Anatomy and Physiology	
Total	13
Electives: Interdisciplinary	
Upper division units outside the School of Education	6
Total	6
Courses in Health, Physical Education and Recreation	
Lower Division (all required)	
HE 101 Personal and Community Health	2
HE 102 Prevention and First Aid	2
PE 201 Introduction to Physical Education and Recreation	3
Rec 203 Recreation Programs and Activities	2
Total	9

^{*} As taught at California State College, Fullerton.

Physical Education

Upper Division (all required)	Units
PE 324 Theory and Principles of Human Motor Learning	3
PE 325 Case Studies in Human Motor Learning	
PE 416 Kinesiology	
PE 417 Physiology of Exercise	3
PE 418 Adapted and Corrective Activities	
HE 419 The School Health Program	
PE 420 Tests and Measurements in Physical Education	3
Total	21
Upper Division (any five courses)	
PE 311 Analysis of Aquatics	2
PF 312 Analysis of Combatives	2
PE 313 Analysis of Folk, Square and Social Dance	2
PE 314 Analysis of Individual and Dual Sports.	2
PE 315 Analysis of Modern Dance	2
PE 317A,B Analysis of Team Sports (W)	4
PE 317A,B Analysis of Team Sports (W) PE 318 Analysis of Team Sports (M)	2
PE 319 Analysis of Gymnastics and Tumbling	
Total	10
Total in health, physical education and recreation	40

MINOR IN PHYSICAL EDUCATION

A minor conssits of 22 units of work as listed below:

Lower Division: HE 102, PE 201, Rec. 203.

Upper Division: PE 324, 416 or 417, 419 or 420 and select any three courses

(6 units) from the analysis series:

PE 311, 312, 313, 314, 315, 317A,B, 318, 319.

Proficiency Requirements for Minor Students

Physical education minors must demonstrate proficiency in at least three skill areas selected from: aquatics, combatives (men); folk, social and square dance; gymnastics; individual sports; modern dance; and team sports. Activity courses should be taken to meet the prerequisite requirements for the analysis series courses. Proficiency screening tests are administered in the analysis classes at the beginning of the semester.



CREDENTIAL REQUIREMENTS FOR PHYSICAL EDUCATION MAJORS

The college program for meeting the requirements for the Standard Teaching Credential with a Specialization in Secondary School Teaching is as follows:

- 1. A bachelor's degree from an approved institution.
- 2. A fifth year of college or university education taken at the upper division or graduate level, at least six semester hours of which must be taken at the graduate level.
- Forty-five semester hours of coursework selected from four of the following six areas: humanities (except foreign languages); social sciences; natural sciences; mathematics;* fine arts; and foreign languages. The applicant must have at least a year of English and shall demonstrate competence in composition by passing a course in advanced composition or by passing an examination.† (The general education requirement for the bachelor's degree will satisfy this requirement if courses are selected properly. Not more than six hours of general education coursework shall apply toward the major or the minor for the credential.)
- 4. A major and a minor in subject matter areas commonly taught in the public secondary school. The following minors are available for physical education majors: art, biology, chemistry, communications with a journalism emphasis, drama, economics, English, French, geography, German, history, mathematics, music, physics, political science, Spanish and speech.
- 5. Credential requirements for preservice professional education are met through the following program in professional education:

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Educ 340 Principles and Curricula of Secondary Education	3
Educ 411 Psychological Foundations of Education	3
Educ 496 Practicum (concurrent enrollment with Educ 411)	
Educ 401 Social Foundations of Education	3
‡PE 442 Teaching Physical Education in Secondary Schools	2
Educ 449 Fieldwork in Methods of Teaching in Secondary Schools (con- current enrollment with PE 442)	1
‡PE 749 Student Teaching in Physical Education in the Secondary School	
and Seminar	6

Admission to Teacher Education

The application for admission to teacher education should be completed by the end of the semester in which Educ 340 is completed. Information about admission to teacher education is available at the Credentials Office. The instructions for admission indicate all the procedures to be followed. Each applicant should take the test batteries at the earliest date listed in the admission to teacher education materials.

Admission to Student Teaching

Admission to teacher education does not include admission to student teaching. Information about admission to student teaching is available at the Secondary Education Office. Applications for student teaching for fall semester must be submitted by March 1 and for spring semester by October 15.

Study Limits of Student Teachers

Students enrolled in PE 749 will be limited to two additional courses for that semester. It is expected that students will not carry out-of-college work responsibilities during the semester of the student teaching assignment.

^{*} Mathematics requiring as a prerequisite an understanding and knowledge of high school algebra and geometry.

[†] The English requirement including composition is met at this College by English 100 or 103, English 110, 111 or 112 (or equivalents) and English 301.

‡ See course description for prerequisites.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN PHYSICAL EDUCATION

General Characteristics

The program of studies leading to this degree is designed to prepare carefully selected individuals as master teachers of physical education by providing the technical knowledge and scholarship necessary to interpret to others through modern methods of education: (1) the basic subject matter of physical education; (2) the conduct and application of experimental research pertinent to physical education; (3) the ability to evaluate critically the basic issues affecting physical education; and (4) the application of concepts from related fields having significance for physical education.

The program is also designed to prepare teachers of physical education at the college level as well as to provide the background for continued study in a doctoral

program in physical education.

Prerequisites

Prerequisites to the program include:

I Core Sendies (minimum 10

- (1) completion of 24 approved upper division units in physical education;
- (2) a grade-point average of 3.0 or better, for all upper division work taken in physical education and a 2.5 GPA for all previous college work. (Contingency provisions: grade-point deficiencies in individual courses in physical education may be met by taking 6-12 hours of approved courses at California State College, Fullerton, and earning a 3.0 GPA in these courses. Such courses, while counted toward the prerequisites for the master of science program, may not be used to fulfill the program requirements.)
- (3) completion of the Aptitude Test of the Graduate Record Examination.

Program of Study

The degree study plan normally consists of 30 units of graduate coursework with a GPA of 3.0 or better. Coursework shall include 21 units of 500-level courses of which 10 units shall be in the core studies. Further work includes 12–17 units in physical education electives with eight of these units concentrated in one special area. Six units of work must be in disciplines other than physical education. A thesis and an oral examination at the conclusion of the program are required; a written examination may also be required.

1. Core Studies (minimum 10 units)	Units
PE 510 Research Design in HEPER	3
PE 598 Thesis	4
At least one of the following:	
PE 515 Seminar in Physical Education	3
PE 516 Philosophical Bases of Physical Education	3
PE 520 International Physical Education	3
II. Electives (12-17 units) in physical education, including a mi	inimum of eight

(PE 596, Advanced Studies in Physical Education, 1–3 units, may be applied to core, concentration or elective area as improved. PE 599, Independent Research, 1–3 units, may be applied to any of the concentrations which follow.)

A. Administrative:	Unit
PE 532 Curriculum Design in Physical Education	3
PE 530 Administration and Supervision of HEPFR	3
PE 533 Facilities Development and Planning	2
PE 545 Seminar in Evaluation in Physical Education	3

B. Scientific:	Units
PE 552 Human Bio-Kinetics	3
PE 555 Scientific Bases of Training	3
PE 551 Seminar: Advanced Study in Physiology of Exercise	3
PE 545 Seminar in Evaluation in Physical Education	
PE 540 Seminar in Problems in Adapted Physical Education	3
C. Scientific Sports:	
Must include two courses from the scientific area above:	
PE 560 Advanced Study in Performance:	
(a) Tennis-Badminton	2
(b) Gymnastics	2
(c) Track and Field	2
III. Supporting courses from other disciplines	6
For further details, consult the coordinator of graduate studies, Dep	artment of
Health Education, Physical Education and Recreation.	

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HEALTH EDUCATION COURSES

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

101 Personal and Community Health (2)

Meaning and significance of physical, mental and social health as related to the individual and to society; alcohol and narcotics education; fire prevention; public safety and accident prevention.

102 Prevention and First Aid (2)

Study of the hazards in man's environment and the common accidents related thereto. Emphasis is placed upon both the care and prevention of accidents. Students will be certified in standard and advanced American Red Cross first aid procedures. (1 hour lecture, 2 hours activity)

321 Stimulants and Depressants (2)

Critical study of habit forming substances such as alcohol, tobacco, narcotics and related drugs. Social and legal aspects of the drug problem are also considered.

322 Man, Exercise and Leisure (2)

A study of the effect of man's nutrition in relation to exercise. The interrelationships of activity and leisure in modern society and the problems that are associated with them will also be investigated.

419 The School Health Program (3)

Prerequisite: HE 101 or equivalent. Consideration of the three classical divisions of the school health program: instruction, services and environment. Study will include standards, problems, and relationships pertaining to these areas as well as a field project.

421 Public Health (2)

A study of the structure, policies and practices of public health agencies in the United States. Emphasis on factors affecting environmental health.

PHYSICAL EDUCATION COURSES

General Education Requirements:

Health and Physical Education Electives

There are no specific health and physical education requirements. Each student, however, must take a minimum of three courses (9 units) with one from each of three fields included in Category IV, Basic Subjects: computer science, elementary foreign languages, health education, mathematics, oral communications, physical education, reading, statistics or writing. See page 74.

110 Aquatics (1)

A physical activity experience in aquatics activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

120 Group Activities (1)

A physical activity experience in group activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

130 Individual Activities (1)

A physical activity experience in individual activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit,

140 Dance Activities (1)

A physical activity experience in dance activities with a student in an educational setting and under the direction of a faculty member who directs the activity to meet the needs and interests of the student. Open to all students. May be repeated for credit.

170 Intercollegiate Sports (W) (1)

An intercollegiate activity experience in individual or team sports for women in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of coach required for enrollment.

180 Intercollegiate Sports (M) (1)

An intercollegiate activity experience in individual and team sports for men in an educational setting under the direction of a coach who directs the activity to meet the needs and interests of the student. Consent of the coach required for enrollment.

Professional Theory Courses

201 Introduction to Physical Education and Recreation (3)

Introduction to physical education programs in public and private agencies, personal, social and professional requirements of the physical education teacher and recreation leader, includes the origin and development of the professions of health education, physical education and recreation with emphasis upon their significance and function in contemporary American culture.

206 Techniques of Officiating Team Sports (2)

Analysis of officiating techniques and rules necessary for officiating team sports. May be repeated for various sports or combinations of sports. (1 hour lecture, 2 hours activity)

210 Water Safety Instructor (2)

Prerequisite: PE 110 (Life Saving) or equivalent and consent of instructor. This course prepares the student to teach swimming and life saving and to supervise aquatic programs. Successful completion of this course will qualify the student for certification as an ARC Water Safety Instructor. (1 hour lecture, 2 hours activity)

214 Skin and Scuba Diving (2)

Prerequisites: PE 110 (Life Saving) or equivalent and the consent of instructor. The techniques of skin and scuba diving. Theory of diving, safety procedures and applications of diving will be covered. (1 hour lecture, 2 hours activity)

301 Prevention and Care of Athletic Injuries (2)

Prerequisites: upper division standing, successful completion of HE 102 (or equivalent) and consent of instructor. Designed to assist trainers, coaches, physical education instructors, health educators, YMCA and playground personnel, and athletes in the prevention and care of athletic injuries. Emphasis will be on practical applications as well as theory. (1 hour lecture, 2 hours activity)

311 Analysis of Aquatics (2)

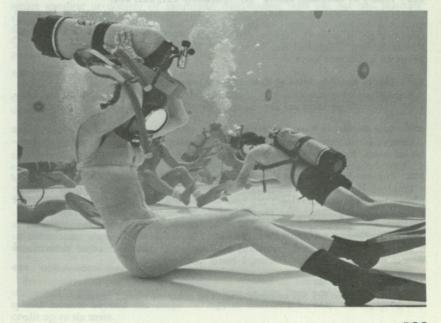
Prerequisites: PE 110 (Life Saving) or equivalent and consent of instructor. Analysis of springboard diving, instructional and competitive swimming, waterpolo, and skin and scuba diving. (1 hour lecture, 2 hours activity)

312 Analysis of Combatives (2)

Prerequisite: PE 130 (Combatives—Men) or equivalent. Analysis of judo (jui-jitsu), wrestling and self-defense. (1 hour lecture, 2 hours activity)

313 Analysis of Folk, Square and Social Dance (2)

Prerequisite: basic skills in folk, square and social dance. Analysis of basic dance skills, international folk, square, round and social dancing. (1 hour lecture, 2 hours activity)



Physical Education

314 Analysis of Individual and Dual Sports (2)

Prerequisites: proficiency in skills covered and consent of instructor. Analysis of archery, badminton, golf and tennis. (1 hour lecture, 2 hours activity)

315 Analysis of Modern Dance (2)

Prerequisites: PE 140 (Beginning Modern Dance and Intermediate Modern Dance) or equivalent and consent of instructor. Analysis of modern dance including choreography, program planning and dance accompaniment. (1 hour lecture, 2 hours activity)

317A Analysis of Team Sports (W) (2)

Prerequisites: proficiency in the skills covered and consent of instrucor. Analysis of basketball, softball, soccer, speedball, and speed-a-way (1 hour lecture, 2 hours activity).

317B Analysis of Team Sports (W) (2)

Prerequisites: proficiency in the skills of the sports covered and consent of instructor. Analysis of volleyball, field hockey, track and field (1 hour lecture, 2 hours activity).

318 Analysis of Team Sports (M) (2)

Prerequisites: PE 120 (Team Sports—Men) or equivalent and consent of instructor. Analysis of soccer, softball, speedball, and volleyball. (1 hour lecture, 2 hours activity)

319 Analysis of Gymnastics and Tumbling (2)

Prerequisites: PE 130 (Beginning Gymnastics and Tumbling) or equivalent and consent of instructor. Analysis of apparatus gymnastics and tumbling. (1 hour lecture, 2 hours activity)

320 Theory of Coaching: Sports (2) (Formerly 321, 322, 323)

A physical education experience designed to help prepare the student to coach specific individual and team sports. Emphasis will include coaching techniques, conditioning of athletes, budget preparation, purchase and care of equipment, scheduling and design and care of facilities. May be repeated for credit with emphasis on a different sport.

324 Theory and Principles of Human Motor Learning (3)

An analysis of current theories of motor learning as related to human performance. Philosophical bases are developed from which basic principles are evolved.

325 Case Studies in Human Motor Learning (3)

Case studies involving human physical performance. Sequence of activities, individual needs, institutional patterns of organization and programming.

333 Physical Education and Human Development (3)

Emphasis is placed upon characteristics of the child, particularly as these relate to physical growth and development; basic mechanical principles underlying efficient movement; and programs for physical needs of children in the elementary school.

335 Afro-American Dance (2)

Study of primitive and tribal rhythms including jazz and other derivational dances of Africa. (1 hour lecture, 2 hours activity)

416 Kinesiology (3)

Prerequisite: Bio Sci 361 or equivalent. The study of human motion.

195

417 Physiology of Exercise (3)

Prerequisite: Bio Sci 361 or equivalent. The study of physiological processes in physical activities and the effects of training upon performance.

418 Adapted and Corrective Activities (3)

Prerequisite: PE 416. The study and selection of activities and programs for students physically unable to participate in the regular physical education program.

420 Tests and Measurements in Physical Education (3)

A study of the development and use of tests and measurements in physical education in the evaluation of objectives, programs, and student achievement.

425 Special Programs: Physical Education (1-3)

Prerequisite: upper division standing. Group investigation of selected topics determined by professionals in the field. Will be offered as a one-, two- or three-unit course. May be repeated for credit.

431 Health, Physical Education, Recreation and Athletics in the Community Colleges (3)

This course is designed to prepare students for junior college teaching and for administrative positions. It will investigate the role of health, physical education, recreation and athletics in the junior college curriculum. Fieldwork and campus visitations required.

435 Physical Activity in Cultural Perspective (3)

Prerequisite: senior or graduate standing. An interdisciplinary approach to the examination of physical activity in the cultural milieu. Study will cover historical and contemporary interpretations of the role of play, games and sports, dance and recreation in human life.

442 Teaching Physical Education in the Secondary School (2)

Prerequisite: Education 340, Education 411, admission to teacher education, senior standing or consent of instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 212 under Secondary Education for description of Standard Teaching Credential Program. Objectives, methods, and materials including audiovisual instruction for teaching physical education in secondary schools.

484 Contemporary Dance Technique (3)

Prerequisite: PE 140 (Intermediate Modern Dance) or equivalent. Study of theories, approaches, and techniques of contemporary dancers. Emphasis is on development of individual technique in dance. (2 hours lecture, 2 hours activity)

486 Choreography (3)

Prerequisite: PE 140 (Intermediate Modern Dance) or equivalent. Theoretical and creative aspects of choreography. Application and analysis of elements of choreographic form. Composition of solo and group dances. (2 hours lecture, 2 hours activity)

496 Physical Education Practicum (1-3)

Prerequisite: consent of the department chairman and instructor. Participation as an assistant in planning, preparing, coaching, teaching in public school, college, or community physical education or recreation programs. May be repeated for a maximum of six units of credit. Credit/no credit only.

499 Independent Study (1-3)

Prerequisites: upper division standing and consent of instructor supervising the study and department chairman. Independent inquiry into problems of topics of special interest beyond the scope of regular coursework. May be repeated for credit up to six units.

Physical Education

510 Research in Health Education, Physical Education and Recreation (3)

Prerequisite: graduate status. The role and functions of research in health, physical education, and recreation; included are the different types of research with tools of and equipment for the respective research. Selection and development of research problems and critique of completed studies are stressed.

515 Seminar in Physical Education (3)

Prerequisite: graduate status with a major or minor in physical education. A study of current problems and issues in physical education through a critical analysis of the literature in the field and research findings.

516 Philosophical Bases of Physical Education (3)

Prerequisite: graduate status with a major in physical education. Identification of philosophical schools of thought as related to physical education including the role of the philosophical process. Examination and application of the philosophical process in physical education.

520 International Physical Education (3)

Prerequisite: graduate status with a major in physical education. An in depth study of the theory and practice of physical education and sports in selected foreign countries. Evaluation of foreign physical education programs in relation to programs witnessed in the United States.

530 Administration and Supervision of Health Education, Physical Education and Recreation (3)

Prerequisite: graduate status with major in physical education. An in depth study and critical analysis of existing programs in health education, physical education, and recreation in terms of established evaluative criteria and norms of practice.

532 Curriculum Design in Physical Education (3)

Prerequisite: graduate status with a major in physical education. Study in desirable practices, procedures, and factors influencing curricular development in the field of physical education. Especially designed for the practicing teacher, supervisor of physical education, and the school administrator concerned with physical education in the total school program.

533 Facilities Development and Planning (2)

Prerequisites: graduate status and a major in physical education. Analysis of new trends and research in the development of indoor and outdoor facilities in planning programs in health education, physical education and recreation with special emphasis upon design, safety, features, site selection, building construction and equipment needs.

540 Seminar in Problems in Adapted Physical Education (3

Prerequisite: PE 418. Identification and solutions of problems in planning, organization, administration, and evaluation of adapted physical education programs at local, state, and national levels.

545 Seminar in Evaluation in Physical Education (3)

Prerequisite: graduate status with a major in physical education. The study and application of advanced evaluation procedures and scientific instrumentation used in the solution of current problems and projects in physical education.

551 Seminar: Advanced Study in Physiology of Exercise (3)

Prerequisite: PE 417 or equivalent. A study of advanced theories of exercise and physiological function.

552 Human Bio-Kinetics (3)

Prerequisite: PE 416 or equivalent background in kinesiology and physiology. A study of advanced theories and a detailed analysis of human movement.

555 Scientific Bases of Training (3)

Prerequisites: graduate status, coursework in kinesiology, physiology of exercise, bio-kinetics, and consent of instructor. Detailed study of contemporary training with specific attention to the development of those qualities involved in various sports. Experience in evaluation of the effects of training.

560A Advanced Study in Performance: Badminton and Tennis (2)

Prerequisites: graduate status, advanced preparation and/or experience in badminton and tennis or consent of instructor. Theory and analysis of top level performance. Includes in depth study of skills, techniques and strategy involved in badminton and tennis and the factors pertinent to outstanding athletic performance.

560B Advanced Study in Performance: Gymnastics (2)

Prerequisites: graduate status, advanced preparation and/or work in gymnastics or consent of instructor. Theory and analysis of top level performance. Includes in depth study of the skills and techniques involved in gymnastics and the factors pertinent to outstanding athletic performance.

560C Advanced Study in Performance: Track and Field (2)

Prerequisites: graduate status, advanced preparation and/or work in track and field or consent of instructor. Theory and analysis of top level performance. Includes in depth study of the skills, techniques, and strategy involved in track and field and the factors pertinent to outstanding athletic performance.



Physical Education

596 Advanced Studies: Physical Education (1-3)

Prerequisite: graduate status. Graduate seminars designed to develop competencies in such areas as: historical, philosophical, sociological, psychological, scientific bases of sport and dance. Opportunities are provided for the individualization of instruction with appropriate experiences. May be repeated for credit.

598 Thesis (4)

Prerequisites: PE 510 and consent of instructor. Individual research on an empirical problem. Conferences with thesis chairman and committee, culminating in a thesis.

599 Independent Research (1-3)

Prerequisites: graduate status and consent of the faculty adviser and department chairman. Research for qualified graduate students desiring to pursue independent inquiry. May be repeated for credit.

749 Student Teaching in Physical Education in the Secondary School and Seminar (6)

See pages 223-224 for description and prerequisites.

RECREATION COURSES

203 Recreation Programs and Activities (2)

Prerequisite: consent of instructor. Theory and activity course, leadership in recreation programs, activities in recreation agencies. Laboratory experiences and practice included. (1 hour lecture, 2 hours activity)

DEPARTMENT OF SCHOOL ADMINISTRATION AND SOCIAL FOUNDATIONS

FACULTY

Ernest G. Lake

Department Chairman

Hollis Allen (Emeritus), Edwin Carr, Stuart McComb (Emeritus), Robert Mc-Laren, Kenneth Preble

PART-TIME

Walter Beckman, Ragnar Engebretsen, Robert Jenkins, Donald Jordan, Donald Kennedy, Charles Kenney, Ernest Norton, David Paynter, Walter Pray

UNDERGRADUATE COURSES IN SOCIAL FOUNDATIONS

Courses in the Social Foundations of Education are designed to help prospective teachers understand how the school has been shaped, and is being shaped, by a myriad of forces. These forces are intellectual, historic, economic, political, social, legal; together they influence the outcomes of formal education at least as much as does any educational methodology. For this reason work in the Social Foundations of Education is one of the requirements for teaching credentials.

MASTER OF SCIENCE IN EDUCATION

School Administration

A program of graduate studies leading to the degree of Master of Science in Education with a concentration in school administration has been authorized by the California State Colleges Board of Trustees. The principal objective of the curriculum is to prepare carefully selected individuals for certain leadership posi-

tions in school administration.

The program is designed to help these individuals gain the technical knowledge and scholarship requisite to high achievement in these positions. This professional program is based on and combined with sound preparation in the liberal arts and sciences. The curriculum proposes an interdisciplinary approach to the preparation of the professional specialist in public education. Thus, those who qualify for the degree should have completed coursework in such fields as philosophy, public administration, psychology, political science, biology, English, sociology, economics, anthropology, or history.

Prerequisites

A student desiring to enter the program should complete the following requirements:

1. A baccalaureate degree from an accredited institution.

2. A successful teaching experience in an elementary or secondary school, or community college, is desirable. If such experience is not available, other experience in related fields is a recommended alternative, which must be approved by a graduate adviser before starting the program.

3. Generally, students will have completed as a requirement of their teaching certificate 30 units of postbaccalaureate study. These must be of upper division or graduate level (300-level or above) and be approved by the graduate adviser. Students should make an appointment with a graduate adviser as soon as the objective in school administration is selected.

4. An approved undergraduate major.

 A minimum of 12 postgraduate units in academic subjects, completed either prior to or during the program.

6. At least 2.5 grade-point average in previous academic and related work.

 An acceptable score on the Graduate Record Examination—either the Area Test or the Aptitude Test.

Education

Programs of Study

The degree study plan must include 30 units of committee-approved coursework, of which 21 must be at the 500-level. A minimum of 21 units must be in school administration; 6 units may be assigned on an interdisciplinary basis from courses related to the needs of individual students. Course requirements include field experience and a project.

No more than 9 units of postgraduate work taken prior to classified status may

be applied to a student's master's degree program.

Students concentrating in school administration will take Education 503, Foundations for Administrative Leadership, as soon as they identify their interest in this M.S. degree. To continue in the program beyond this course, the student must be granted a "letter of admission to the program" and possess an official California State College, Fullerton program evaluation. Students who desire only isolated courses from the program are normally denied admission to such courses. The adviser-approved 30 units (minimum) on the study plan will include:

	ers understand how the school has been shaped, and it buries	Units
Master's deg	ree studies, supporting courses	THE RESERVE OF THE PARTY OF THE
Educ 510 Adviser-ap	Research Design and Analysis (3) proved courses (outside the student's area of specialization and the Department of School Administration and Social Founda-	
Courses for All of the	the Concentration in School Administration	
	Supervision of Curriculum (4)	
Educ 561	Organization of School Systems (3)	
Educ 563	Principles of School Personnel Administration (2)	
Educ 564	Seminar in School Law (2)	
Educ 565	Seminar in School Finance, Business Administration, and Buildings (3)	
Educ 567A	Fieldwork and Seminar in School Administration (Includes Project or Thesis) (2)	
Educ 567B	Fieldwork and Seminar in School Administration (Includes Project or Thesis) (2)	
One of the	following	3
Educ 566	The Elementary School Principal and Supervisor (3)	ndin:
Educ 586	The Secondary School Principal, Community College Administrator, and Supervisor (3)	
For advise	ement and further information, consult the Department of S	chool

For advisement and further information, consult the Department of School Administration and Social Foundations. See also "The Program of Master's Degrees," page 77, and the *Graduate Bulletin*.

INTERNSHIP IN SCHOOL ADMINISTRATION

A selected number of teachers will be offered the opportunity to study and to practice school administration as school interns in administration. A candidate must obtain admission to the program, and agreement must be reached with a sponsoring school or college district to employ the candidate as a full-time administrator during the school year. The concept of the internship in educational administration is similar to that found in other professional fields. Its basic function is to enable the intern to gain the necessary experience in the performance of the critical tasks of his profession while under the close supervision of a fully-trained and experienced practitioner. It is an opportunity for the college and local school and college systems to work together in training well-qualified school administrators. The internship in educational administration is but one phase of the program for preparing supervisory and administrative personnel for community college, high school, intermediate school, and elementary school positions of leadership. It is

an investment in training supervisory leadership from which the cooperating school district, the college, and the intern will derive benefit and in which all three have responsibilities. Cooperation among all three is essential to the success of the program.

Internships are for a full academic year and require of all students the completion of a minimum of 19 graduate credits. During the period of the internship the student is required to be a registered graduate student at California State

College, Fullerton.

All candidates will be given a temporary credential for supervision and administration according to the regulations of the California Administrative Code, Title V, Section 6555. Such candidates should register in two courses: Education 561, Organization of School Systems, Education 563, Principles of School Personnel Administration.

Both courses must be completed in the summer session if the student is to do his internship beginning in the fall semester. Applications for admission to the program should be sent to the chairman, Internship Program in School Administration, by June 1. Careful planning of electives will enable candidates to receive the Master of Science in Education with a concentration in school administration upon further study, after completing the requirements for the internship.

ADVANCED CREDENTIAL PROGRAM

School Administration

Candidates in administration, upon completion of the degree requirements for a Master of Science in Education, should qualify for certification as a school administrator at any level providing they have taught three years. As certification requirements change yearly, candidates are urged to have their adviser check their study program against current requirements.

Candidates in administration accepted in the Administrator Internship Program will be issued the Standard Supervision Credential conditionally upon partial fulfillment of requirements according to the California Administrative Code, Title V,

Section 6555.

OTHER STUDENTS IN SCHOOL ADMINISTRATION

Experienced school administrators, holding a California Administrative Credential or a Supervision Credential and exempt from degree requirements, may register for any course in the school administration concentration. Teachers wishing to take courses in school administration directed at helping them to understand administration problems are welcome to take selected courses.

SCHOOL ADMINISTRATION AND SOCIAL FOUNDATIONS UNDERGRADUATE COURSES

401 Social Foundations of Education (4)

Prerequisites: Educ 411, admission to teacher education or consent of instructor. Seminar in philosophical, historical, and sociological foundations of education, considered in the light of their influence on contemporary educational theory and practice in the United States.

402 Comparative Education (3)

Prerequisite: Educ 401, 403, or consent of instructor. A seminar centered in study of the various countries' and areas' education patterns, problems and trends as part of the cultural setting in which found; designed to deepen insights into our own culture's educational program and offer bases for comparative evaluation with other systems.

403 History of Education (3)

Prerequisites: history of world civilization and Educ 331 or 442 or consent of instructor. The main streams of educational history in Europe and America, with particular emphasis on the ways these main streams have affected the current scene in the United States.

406 Educational Sociology (3)

Prerequisite: Educ 331 or 442, or consent of instructor. The school in the social order; the school as a social system; analysis of cultural factors affecting the school; the special culture of the school; roles and role conflicts in the school; policy questions flowing from social issues and school-cultural relationships.

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

Prerequisite: senior or graduate standing, consent of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.

GRADUATE COURSES

501 Philosophy of Education (3)

Prerequisites: postgraduate standing and Educ 339 or 739 or Educ 749, or consent of instructor. Uses of theories of knowledge, value and reality in dealing with educational problems; application of contemporary systems of thought to education.

503 Foundations for Administrative Leadership (3)

Prerequisite: consent of instructor. Seminar on cultures and values to which schools must contribute: introduction to community sociology, tax systems and public administration; the literature of leadership. Screening for admission to program. Occasional special meetings. Required of all students during first registration in school administration and supervision at this college.

505 The Supervision of Curriculum (4)

Prerequisite: Educ 566 or 586. Seminar on development of a quality program of instruction in both elementary and secondary schools; appraisal of programs of instruction; advanced principles of curricular review and modification. Evaluation of subject matter competence in area of supervisory specialization. Meets credential requirements in principles of curriculum construction and evaluation; supervision of instruction and curriculum in both elementary and secondary schools.

560 Contemporary Problems in School Administration (3)

A seminar on contemporary problems in school organization and administration with particular emphasis on collective bargaining, the computer as a business and educational tool, and the needs of urban schooling including the problems of racial isolation.

561 Organization of School Systems (3)

Prerequisite: Educ 503 or concurrent enrollment. Seminar on structure, functions, trends, fiscal responsibilities and issues in respect to the government of education at federal, state, county, and local school district levels. Basic principles in school organization and administration. Special emphasis on intergovernmental relations and impact at local level.

563 Principles of School Personnel Administration (2)

Prerequisite: Educ 503 or concurrent enrollment. Seminar on principles of organizational behavior, social processes inherent in effective leadership, and techniques of school personnel management.

564 Seminar in School Law (2)

Prerequisite: consent of instructor. School law as a reflection of public policy; the California Education Code and the California Administrative Code, Title 5, and county counsel opinions as they affect administration, instruction, and financial management of public schools. Court attorney general decisions in interpreting school law. Legal basis for public education in California. An elective course in school administration.

565 Seminar in School Finance, Business Administration, and Buildings (3)

Prerequisite: consent of instructor. Emphasis on school finance, business administration, and buildings as they implement an effective educational program. A study of financial principles. School revenues and expenditures, budgetary procedures and processes, cost analysis; business management, and salary policies. An elective course in school administration.

566 The Elementary School Principal and Supervisor (3)

Prerequisites: Educ 561 and 563. Seminar on leadership roles of elementary school principal and supervisor, pupil personnel and instructional program in elementary school; working relations and morale among staff, community and pupils; parent education; relations with central district staff; management and recordkeeping functions; teacher evaluation.

567A,B Fieldwork and Seminar in School Administration (2,2)

Prerequisites: Educ 566 or 586 or concurrent registration, and consent of instructor. Two-semester terminal sequence required for the M.S. in Education with a concentration in school administration. Includes directed field work in selected public schools and district offices. Supervised project or thesis required for degree. (4 hours fieldwork, 2 hours conference)

568 Seminar for Administrative Trainees (3)

Provides a behavioral analysis approach in the establishment of a sound foundation for educational administrators who have just completed a year of practice in administration. The seminar is the culminating offering of the Administrator Internship Program The objectives of the seminar include (1) developing further insights into the complex behavior of human beings in social groups, (2) increasing understanding of how certain theory and research contribute to effective administrative practice, (3) evaluating further self-behavior in administration. Experienced school administrators who wish to relate their administrative experiences to the theory of behavioral analysis are welcome to register in the seminar. Behavioral environment will be examined as it shapes process, organization, and function in school administration.

586 The Secondary School Principal, Community College Administrator, and Supervisor (3)

Prerequisites: Educ 561 and 563. Seminar on leadership roles of the secondary school principal and supervisor, pupil personnel and instructional program in the secondary school; the development and administration of vocational and adult education; working relations and morale among staff, community and pupils, relations with central district staff; the management and record-keeping functions; teacher evaluation.

Education

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1-3)

Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

DEPARTMENT OF TEACHER EDUCATION

FACULTY

Hazel M. Croy

Department Chairman

James Alexander (Journalism Education), Jean Barrett (Physical Education), Carol Chadwick (Music Education), Francis Collea (Science Education), Miriam Cox (English Education), James Cusick, Raymond Denno*, Naomi Dietz (Art Education), Kenneth Doane*, Mildred Donoghue, Gerhard Ehmann*, Hugh Ellison (Music Education), Richard Gerfen, Kaye Good (Speech Education), Barbara Hartsig, Donald Henry (Theatre Education), Emma Holmes, Elmer Johnson (Physical Education), Paul Kane, Bernard Kravitz, Joseph Landon (Music Education), L. Clark Lay (Mathematics Education), Michael Lyon (Art Education), Edith McCullough, Benton Minor (Music Education), Bryan Moffet, Irene Nims (English Education), Deborah Osen, David Pagni (Mathematics Education), Donald Pease, Virginia Scheel (Physical Education), George Schick, Clarence Schneider (English Education), Morris Sica, Robert Simpson, Eula Stovall (Physical Education), H. Eric Streitberger (Science Education), John White (English Education), Charles Williams (Science Education), Jon Zimmermann (Foreign Language Education)

PART-TIME

Leona Baumgardner, Margot Coons, Dorothy Klausner, Helen Levy, Marjorie Ogden, D. Russell Parks, Harriet Schultz, Roberta Seaman

The courses, programs, and services of the department are directed toward the following objectives of students:

- 1. Master of Science in Education with concentration in an elementary curriculum and instruction, or reading.
- Preservice teacher education (elementary school, secondary school, community college).
- 3. In-service teacher education.
- 4. Program for the preparation of reading specialists.

Instruction concentrates on the central principles of the school as a basic institution of our culture, the methods and materials associated with effective teaching, and the current and persistent problems that confront teachers, and other professional workers in educational institutions. In addition to using published source materials and attending class sessions for presentations and discussions, many courses require fieldwork in schools, laboratories, clinics, and other educational agencies.

PUBLICATIONS AVAILABLE FROM THE DEPARTMENT OF TEACHER EDUCATION

- 1. Master of Science in Education, Elementary Curriculum and Instruction.
- 2. Master of Science in Education, Reading.
- 3. Admission to Teacher Education: Standards, Instructions, Application.
- 4. Admission to Student Teaching: Standards, Instructions, Application.
- 5. Standard Teaching Credential with a Specialization in Elementary Teaching.
- 6. Standard Teaching Credential with a Specialization in Secondary Teaching.
- Standard Teaching Credential with a Specialization in Community College Teaching.
- 8. Program for Elementary Internship.

^{*} College administrative officer.

PRESERVICE TEACHER EDUCATION

TEACHER EDUCATION CURRICULA

California State College, Fullerton is accredited by the California State Board of Education for programs leading to the following credentials offered by the Department of Teacher Education:

- 1. Standard teaching credential with specialization in elementary school teaching
- 2. Standard teaching credential with specialization in secondary school teaching
- 3. Standard teaching credential with specialization in community college teaching

The School of Education has administrative responsibility for teacher education. All curricula provide for completing the requirements for graduation with the bachelor of arts degree at the end of the usual four collegiate years and an additional year of work to satisfy requirements for a teaching credential. Preparation for teaching in a community college requires the master's degree. Details of the programs are provided in special brochures available from the Department of Teacher Education. Information about the professional services authorized by the above credentials will be provided by professional advisers.

PERSONNEL SERVICES FOR TEACHER EDUCATION STUDENTS

Advisement is available to any student seeking a public school credential and a bachelor of arts degree at this college. During registration, the student should consult an adviser in the department in which he expects to major and an adviser in the School of Education who will help him select courses and build his program. A student from another institution should bring transcripts of previous work and a tentative selection of courses. Transferred education courses must be of upper division level and taken within the past 15 years to be applicable to upper division credential requirements.

ADMISSION TO TEACHER EDUCATION

To become a candidate for a teaching credential the student must be enrolled, in good standing, and must be admitted to "teacher education" in the Office of Admission to Teacher Education of the School of Education. Application for admission to teacher education should be filed during the first semester of the junior year or the first semester of attendance at the college, if the student enters with advanced standing.

Admission to teacher education is required of each student before he files the application for student teaching.†

A faculty committee will review information concerning the applicant's intellectual resources and mastery of important concepts in the common curricular areas of higher education, command of fundamental skills of communication (English language usage, written composition, speech, hearing, reading comprehension, handwriting, mathematical skills), scholarship, personality and character, interest in teaching, and health. Data related to these criteria are gathered from transcripts and records from other schools and colleges, group and individual tests, personality inventories, estimates of the potential of the applicant, and from the Student Health Center. Students should normally qualify for admission and be advised of their status during the second semester of the junior year or their first semester of attendance if they enter with advanced standing with degrees from accredited colleges.

Students who show weaknesses in any of the fundamental skills of communication are advised of their standing. If there are weaknesses in only one or two of the areas noted above, the student will be advised of refresher courses and given a specified time to meet the standard.

[†] Exceptions will be made in the case of new transfer students.

If the applicant has serious deficiencies in communication skills or does not meet the standards of mastery in the common curricular areas, personality and character, scholarship, interest in teaching, or health, the faculty committee will deny admission to teacher education.

The student must arrange to take the required battery of group and individual tests and inventories necessary to provide information needed by the faculty committee. The tests of breadth of understanding, reading, English usage, number skills, composition, handwriting, and personality are given by the School of Education for admission to teacher education; consult the Office of Admission to Teacher Education of the School of Education for dates.

The student who comes to CSCF to work toward a credential for teaching in a secondary school and who already has a bachelor's degree must, before he is admitted to teacher education, consult with an adviser in the major and must submit

a statement, signed by the adviser, which indicates the following:

1. That the student's undergraduate preparation in his major is considered to be adequate for the credential sought, or

2. Specific courses which the student must complete to have a major adequate for the credential sought, and which he must complete before he will be admitted to student teaching. These may be in addition to the minimum of the six upper division or graduate units required in the major in the postgraduate year, or may, in part or in whole, satisfy this six unit minimum requirement.

Full details on standards and procedures for admission to teacher education are described in "Instructions and Standards for Admission to Teacher Education," which is available from the Office of Admission to Teacher Education and the Department of Teacher Education.

STUDENT TEACHING

Each candidate for the standard teaching credential with specialization in elementary school teaching will do his student teaching in the last semester of his senior year or in his postgraduate year at the college. Each candidate for the standard teaching credential with specialization in secondary school teaching, or for the specialization in community college teaching will do his student teaching during a postgraduate year. Details about student teaching in special education classes are available in the Department of Behavioral Sciences. Student teaching assignments are made in the elementary and secondary schools of districts geographically accessible to the college. Community college student teaching assignments are made in nearby community colleges. Students will be assigned to work under the supervision of carefully selected supervising teachers; a college supervisor makes frequent visits to the student teacher and the supervising teacher. Student teachers meet in a weekly seminar under the leadership of the college supervisor to discuss performance and problems.

Application for Student Teaching

Admission to teacher education as described above is the first step in a cumulative and continuing evaluation of a candidate's fitness to teach. The applicant for admission to student teaching must have a grade-point average of at least 2.5 in the major, 2.5 in the minor, and 2.5 in professional education. Marks of C, or better, are required in all professional education courses. Applicants for admission to elementary school student teaching must be classified as postgraduate students or be within 15 units of the baccalaureate degree. Applicants for admission to secondary school student teaching or to community college student teaching must be classified as postgraduate students. All applicants must have completed at least 12 units at California State College, Fullerton. The applicant must present a favorable report on health status and history. He must present evidence of readiness for student teaching responsibility as testified by the major adviser, the professional adviser, and other college faculty. This evidence relates to scholarship, breadth of understanding,

Teacher Education

command of the subjects to be taught, fundamental skills of communication, personality and character, interest and potential for teaching, and health.

Competence is required in all subjects and skills for which the candidate is seeking a credential. For the elementary school teacher education student, this includes all subjects and skills commonly taught in the first eight grades of the public schools. Secondary school and junior college teacher education students must meet the requirements for major and minor(s) as specified by the academic divisions.

All instructors of the college are asked to participate in the continuing evaluation of students in relation to those aptitude, personality and character traits which are considered essential to admission to the teaching profession. Dependability in fulfilling assignments, class attendance, ability to get along with people, industry, and emotional stability are representative criteria. In addition to the evaluations by instructors, the applicants may be interviewed by a faculty committee, and attention will be directed to general appearance, dress, vitality, poise, temperament, integrity, and social attitudes.

The application for admission to student teaching is submitted to the coordinator of admissions to teacher education and student teaching. The application must be submitted by October 15 or March 1 of the semester preceding the semester in which the student teaching assignment is expected. A faculty committee will gather the information described above and report to the student in time to do planning for the following semester.

Except for graduate students who are in their first semester of study at CSCF, applications will be accepted only from those who have completed all requirements for admission to teacher education.

Full details on standards and procedures are described in "Instructions and Standards for Admission to Student Teaching," available in the Department of Teacher Education.

Study Limits of Student Teachers

Students who enroll in Educ 339 or 739, Student Teaching in the Elementary School, will be limited to one additional course for that semester. Students who enroll in Educ 749, Student Teaching in the Secondary School, will be limited to two additional courses for that semester. It is expected that students will not carry out-of-college work responsibilities during the semester of the student teaching assignment.

If a student is under hardship because of these limitations, he may submit a petition to the coordinator of elementary education or to the coordinator of secondary education, as appropriate, requesting permission to carry not more than 13 units, including student teaching. The petition must set forth, in full, the circumstances necessitating the petition.

Permission to Substitute Teaching Experience for Student Teaching

A candidate for a teaching credential who has had two years of successful, regular teaching experience must petition the School of Education, through his professional adviser, for permission to substitute such experience for the student teaching requirement. Substitution of teaching experience for student teaching will be considered only if the applicant:

- 1. Has been admitted to teacher education at the college.
- 2. Has submitted an official verification from his former supervisor, principal, or superintendent to the School of Education certifying at least two years of successful, regular teaching experience at the appropriate level. A letter of verification must be submitted to the Department of Teacher Education.

STATUTORY REQUIREMENTS FOR CREDENTIALS FOR TEACHING

The curricular requirements for credentials for teaching in California elementary schools, secondary schools and community colleges are included in the curricula descriptions. Upon the completion of the requirements, the student will submit an application for a credential to the State Department of Education in Sacramento. On these applications the student is asked about his citizenship status, his professional conduct, and he is asked to sign an oath of allegiance. He must also submit a health examination form signed by a qualified physician, two fingerprint-identification cards and the legal fee, which is currently \$20. The forms are available in the Credentials Office of the college.

Curriculum in Elementary School Teacher Education *

The program leading to the recommendation for the standard teaching credential with specialization in elementary school teaching includes the following:

1. A bachelor's degree from an approved institution.

2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (If the student does not complete all requirements, the credential may be awarded on the basis of partial fulfillment at the end of four or more years of work if he has a bachelor's degree from an approved

institution and has completed the student teaching requirement.)

3. A minimum of 45 semester hours in five of the following six areas: (1) social sciences, (2) natural sciences, (3) humanities (excluding foreign languages), (4) fine arts, (5) mathematics, and (6) foreign languages. The humanities requirement must include a year of English and a course in advanced composition. (To prepare himself to meet professional responsibilities, an elementary school teacher education candidate should include in his program Art 100, Music 101, PE 123, PE 149, and Speech Communication 100 or Speech Communication 102.) These 45 semester hours of coursework for the credential can be met through the college general education requirements for the bachelor's degree with the proper selection of courses. (Not more than six hours of coursework taken to satisfy these requirements shall apply toward the fulfillment of the requirements for either a major or a minor.)

4. Three semester hours of coursework in the theory of the structure, arithmetic and algebra of the real number system or three semester hours of coursework

in calculus. (Math Ed 103A meets this requirement.)

5. One of the following:

a. A major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the public elementary schools. These majors are currently available for this specialization at the college: American studies, anthropology, art, biological science, chemistry, communications with a journalism emphasis, comparative literature, drama, economics, English, French, geography, German, history, linguistics, mathematics, music, philosophy, physics, political science, psychology, sociology, Spanish, speech. (Note: the specifications above are state minima, and do not necessarily satisfy requirements for a major for graduation from the college.)

b. A major and a minor, each of which is in a subject matter area commonly taught in the public elementary schools, and one of which is in an academic subject matter area. The academic major shall consist of at least 24 semester hours of upper division or graduate coursework. If the major is not an academic one, it shall consist of 28 semester hours of upper division or graduate coursework. (With a nonacademic major, i.e., business administration or physical education, only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) This minor shall consist of a minimum of 20 semester hours of coursework. When the major is in an

Regulations for the credential are subject to change by the State Board of Education; any curricular changes will be available in later college publications.

Teacher Education

academic subject matter area specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted.

- c. Two minors in subject matter areas commonly taught in the public elementary schools and a major, other than education and educational methodology, not commonly taught therein. If the major is not in an academic subject matter area, each minor shall be in an academic matter area. (With a nonacademic major only the major and minor subjects may be taught in kindergarten and grades 1 through 9.) If the major is in an academic subject matter area, one of the minors shall be in an academic subject matter area. These minors shall consist of a minimum of 12 semester hours coursework. Specialized preparation in such areas as mentally retarded or speech and hearing handicapped may be substituted for one of the minors.
- 6. Courses selected from the following ones offered by academic departments as part of the basic preparation for elementary teachers. A minimum of three courses, selected with the approval of a professional adviser, must be completed before student teaching.

Art 380 Art and Child Development (3)

English 433 Children's Literature (3)

Math Ed 103B Fundamental Concepts of Mathematics (3)

Music 333 Music and Child Development (3)

PE 333 Physical Education and Human Development (3)

Sci Ed 310 Elementary Experimental Science (3)

Professional education requirements which are currently met by the following program:

Educ 331A Elementary School Principles, Curricula, and Methods: Mathematics, Science, and Social Studies (4)

Educ 331B Elementary School Principles, Curricula, and Methods: Language Arts and Reading (4)

Educ 339 or 739 Student Teaching in the Elementary School (8)

Educ 401 Social Foundations of Education (4)

Educ 411 Psychological Foundations of Education (3)

Educ 496 Senior Educational Practicum, Elementary (1)

Note: Admission to the college does not include admission to the elementary teacher education program. Procedures for admission to teacher education are outlined on page 206. It is the responsibility of each student to file an application for admission to teacher education in his junior year and to complete the requirements for admission to teacher education before enrolling in Educ 331.

Admission to teacher education does not include admission to student teaching. Each student is responsible for meeting the requirements and following the pro-

cedures for admission to student teaching given on page 207.

Composite Lower Division, Upper Division, and Fifth Year Work

A student seeking recommendation for the standard teaching credential with specialization in elementary school teaching after five years of preservice teacher education should complete—

In the lower and upper division:

- a. Coursework listed in 3, 4, and 5 above.
- b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.
- c. Courses in professional education

Junior year, Educ 411 (3) and 496 (1)

Senior year, second semester, 331A (4) and 331B (4) d. Additional courses selected in consultation with his professional adviser.

In the fifth year:

a. Courses in professional education First semester, Educ 739 (8) Second semester, Educ 401 (4)

b. Additional courses from item 6 above as needed and other courses selected

in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

A student seeking the standard teaching credential with specialization in elementary school teaching on partial fulfillment of requirements should complete—

In the lower and upper division:

a. Coursework listed in 3, 4, and 5 above.

b. A minimum of three courses from item 6 above. These courses are to be selected in consultation with and with the approval of his professional adviser.

c. Courses in professional education

Junior year, Educ 411 (3) and 496 (1)

Senior year, first semester, 331A (4) and 331B (4)

Senior year, second semester, Education 339 (8)

d. Additional courses selected in consultation with his professional adviser In the fifth year (to be completed during the first seven years of teaching):

a. Courses in professional education

Educ 401 (4)

b. Additional courses from item 6 above as needed and other courses selected in consultation with his professional adviser.

(The applicant for the standard teaching credential with specialization in elementary school teaching must complete 30 units of upper division and/or graduate work after he has completed all requirements for the bachelor's degree.)

Alternate Program, Internship

An alternate program (internship teaching) leading to the recommendation for the standard teaching credential with specialization in elementary school teaching is available for those who meet the requirements.

This program fulfills the fifth year (30 units beyond the bachelor's degree) requirement and qualifies the candidate for the Standard Teaching Credential with

an Elementary Specialization.

This program extends over two summers and two semesters. A student must begin the internship program in the summer preceding his internship teaching.

Standards for admissions to the internship program:

- a. A bachelor's degree from an approved institution with a major consisting of at least 24 semester hours of upper division or graduate level courses in an academic subject matter area commonly taught in the public elementary schools.
- b. A minimum of 45 semester hours in five of the six areas outlined in No. 3 on page 209.*
- c. Three semester hours of coursework in mathematics outlined in No. 4 on page 209.*

d. No teaching experience.

e. A grade-point average of 2.5 in the major.

^{*} For those who do not meet this requirement, but otherwise qualify for the internship, a program will be planned so that the individual can enter the internship program and meet the requirements of the Curriculum in Elementary School Teacher Education.

Teacher Education

f. Minimum achievement requirements on the Graduate Record Examination for admission to graduate study.

g. Screening by faculty in Elementary Teacher Education and by cooperating school districts.

h. Sponsorship by a school district as an intern in elementary school teaching.

Courses in the program include selection from No. 6 on page 210, the courses in No. 7 on page 210, Educ 496, 537, 595, and one or more electives from the following:

Educ 503 Graduate Studies in Elementary Education: Foreign Languages (3)
Educ 531 Graduate Studies in Elementary Education: Language Arts (3)
Educ 532 Graduate Studies in Elementary Education: Mathematics (3)
Educ 533 Graduate Studies in Elementary Education: Science (3)
Educ 534 Graduate Studies in Elementary Education: Social Studies (3)

Curriculum in Preparation of Reading and Remedial Reading Specialists

Teachers who wish to enter the program for the preparation of specialists in reading and remedial reading, including both primary and secondary school levels, may enroll in the following 18-unit specialty:

	Sequence of Courses in Reading
Educ 506	Curriculum and Research: Reading3
Educ 516	Etiology of Reading Difficulties3
Educ 581	Analysis of Reading Difficulties3
Educ 582	Analysis of Reading Practices3
or	
Educ 584	Linguistics and Reading3
Control of the last of the las	Word Perception Skills in Reading3
	Remedial Reading: Casework 3
	Remedial Reading: Casework3

Completion of the reading sequence will entitle the student to a statement of completion of the reading specialty.

Curriculum in Secondary School Teacher Education *

Credential requirements and the program leading to the recommendation for the standard teaching credential with specialization in secondary school teaching includes the following:

1. A bachelor's degree from an approved institution.

2. A fifth year of college or university postgraduate education taken at the upper division or graduate level. (The postgraduate year is defined by California State College, Fullerton as 30 semester units of upper division or graduate level coursework completed after the bachelor's degree. Coursework taken through extension at this college and summer workshops offered at this college may be used as coursework applying towards the fifth-year requirement.)

3. Forty-five semester hours of coursework, including the English and the competency described below, and including four of the following six areas: (1) humanities (excluding foreign languages), (2) social sciences, (3) natural sciences, (4) mathematics requiring as a prerequisite an understanding and knowledge of high school algebra and geometry, (5) fine arts, and (6) foreign languages. The humanities requirement must include a year of English, and in addition, the applicant for the credential shall demonstrate competence in composition either by passing a course in advanced composition or by passing an examination in lieu thereof.

^{*} This is the curriculum for the standard teaching credential with specialization in secondary school teaching. Credential requirements are subject to regulatory changes. Any such changes will be described in later college publications.

(Note: This 45 semester hours of coursework for the credential can be met through the college general education requirement for the bachelor's degree with proper selection of courses. Not more than six hours of coursework taken to satisfy these requirements shall apply toward the major or minor for the credential.)

- Preparation in subject matter areas commonly taught in the public secondary schools for the purpose of credential requirements for majors and minors.
 - a. One of the following:
 - Option 1. A major in an academic subject matter area commonly taught in the public secondary schools.
 - Option 2. A major and a minor, each of which is in a subject matter area commonly taught in the public high schools, and one of which is in an academic subject matter area.
 - b. Major requirements for the credential must include at least 24 upper division and graduate level units. At least six units in the major must be taken at the graduate level. Six postgraduate units in the minor may be taken in lieu of this requirement for the major. See the general course mumbering code on page 96 for the description of graduate level courses for the credential. Also see the appropriate sections of this catalog for descriptions of requirements in specific majors. The college will recognize single subject areas as satisfying Option 1 provided the student supplies additional upper division or graduate units in supporting areas structured by the department in which the baccalaureate degree is taken and in consultation with the other departments involved. This option should be considered carefully, since it may not be practical in terms of job placement. Some departments of the college will require that the student must present a minor. Students must consult with academic and professional advisers concerning Option 1.
 - c. Minor requirements vary, but must include 20 units in a single subject in this credential program at CSCF. (Note: A minor is not required for graduation from the college but is required for the recommendation of the college for Option 2.)

Each student will complete a major planned with and approved by his major adviser. Majors presently available are: American studies, art, biology, business administration, chemistry, communications with journalism emphasis, drama, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish, and speech.

Each student will complete a minor planned with and approved by his professional adviser. Minors presently available are: American studies, art, biology, business education, chemistry, communications with journalism emphasis, drama, economics, English, French, geography, German, history, mathematics, music, physical education, physics, political science, Spanish and speech. Students may also present specialized preparation to serve as a teacher of exceptional children in the area of the mentally retarded or speech and hearing handicapped in lieu of the minor.

Students majoring in business administration and physical education must have an academic minor with a minimum of 20 units in subjects commonly taught in the public secondary schools. Students with these majors must complete 12 units of upper division or graduate level work in the minor area.

5. Credential requirements in courses for preservice professional education are met in the following program in professional education:

Courses in Professional Education Units Educ 340 Principles and Curricula of Secondary Education. 3 Social Foundations of Education Educ 401 Educ 411 Psychological Foundations of Education 3 Educ 496 Senior Educational Practicum, Secondary, Teaching (art, English, etc.) in the Secondary Schools (also Educ 442 listed in respective departments). Educ 449 Fieldwork in Methods of Teaching in Secondary Schools. 1 Educ 749 Student Teaching (art, English, etc.) in the Secondary School and Seminar (also listed in respective departments)

Students normally will begin their work in professional education in the junior year, and it is expected that, except for Educ 401, the courses above will be taken in the indicated sequence. Students who begin their work in professional education as seniors or as graduate students will follow a somewhat different sequence, and should consult professional advisers when planning their programs. Graduate students without professional education backgrounds may be required to extend their program beyond a single academic year to complete the college secondary school teacher education program. Coursework taken in extension at other institutions is not acceptable in substitution for any of the above courses. In all cases, students are required to take Educ 340 the first semester they are enrolled in professional education.

Note: Admission to the college does not include admission to the secondary school teacher education program. See the description on page 206 for the procedures for admission to teacher education which does include admission to this credential program. It is the responsibility of each student to file his application for admission to teacher education by the end of the semester in which he completes Educ 340. It is also the responsibility of each student to arrange to complete his requirements for admission to teacher education early in his work in professional education. Students must be admitted to teacher education prior to taking Educ 442 and 449.

Admission to teacher education does not include admission to student teaching. See the description of the procedures for admission to student teaching on page 207. The student must observe the deadline and must meet other requirements for admission to student teaching.

Curriculum in Community College Teacher Education

The program requirements leading to the college-recommended standard teaching credential with a specialization in community college teaching are:

- 1. A master's or higher degree from CSCF or other accredited institution.
- Preparation in subject matter areas commonly taught in community colleges in either of the following:
- a. An academic major in a single subject commonly taught in community colleges. (The subject in which a master's degree has been granted constitutes a major in that subject for these purposes.)
 - b. If the major is nonacademic (the candidate holds a master's degree in a subject such as business administration or physical education), the candidate must have an academic minor of a minimum of 20 semester hours in a single subject commonly taught in the community college. Twelve of the units in the minor must be of upper division or graduate level.
 - 3. Professional education requirements in CSCF recommended program:
 - Educ 744 Principles of Community College Teaching 3
 Educ 799 Community College Student Teaching and Seminar 4

Admission to Community College Teacher Education Program

Admission to the college does not constitute admission to community college teacher education.

The candidate must:

Have a master's or higher degree from a fully accredited institution in a field in which the college offers a major

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have classified graduate status (master's degree candidacy) at CSCF and possess a baccalaureate degree.

Admission to community college teacher education follows in general the procedure described on page 215. For exact procedures see Office of Admissions to Teacher Education.

The student is responsible for filing his application for admission as early as

possible and is also responsible for admission to teacher education.

Application for community college student teaching and seminar is not included in admission to the program. The student is responsible for following the procedures listed on page 207 under "Application for Student Teaching."

The courses in professional education listed above will be taken in sequence. The student must have postgraduate standing before he enrolls in these courses. Student teaching may be taken in either the last semester in which the master's

degree will be completed or after the degree has been granted.

N.B.: The above is a description of the program leading to the recommendation of the college for the credential. This program includes student teaching and work in professional education not required by the state. The college program is designed to meet the job placement needs of candidates for positions in community colleges.

GRADUATE PROGRAMS

MASTER OF SCIENCE IN EDUCATION

General Characteristics

This degree is reserved for professionally qualified graduate students who desire to prepare for or advance their careers in reading or elementary curriculum and instruction.

Prerequisites

Most programs have as prerequisites a teaching credential, successful teaching experience, an approved major, acceptable scores on the Graduate Record Examination (area tests or aptitude test), a 2.5 grade-point average on previous academic and related work, and screening into the program on the basis of the prerequisites and professional leadership criteria. Credit will be given for previous postbaccalaureate studies when possible. Otherwise well-qualified students may be admitted to the college with limited subject or grade deficiences, but these deficiences must be removed. Grade-point average deficiencies may be removed by a demonstration of competency in the graduate program.

Programs of Study

Elementary Curriculum and Instruction

The adviser-approved 30 units (minimum) on the study plan will include the following:

Coursework outside elementary education 9

Two of the following:

Educ 402 Comparative Education (3) Educ 403 History of Education (3) Educ 406 Educational Sociology (3)

Teacher Education

Educ 501 Educ 509	Principles of Guidance (3) Philosophy of Education (3) Theory and Practice in Measurement (3) Research Design and Analysis (3)	
Other advise	er-approved courses (3)	TT
	in elementary education Seminar for Elementary Education (3)	Units 15
Three of the	e following:	
Educ 530	Graduate Studies in Elementary Education: Foreign Languages (3)	
	Graduate Studies in Elementary Education: Language Arts (3)	
Educ 532	Graduate Studies in Elementary Education: Mathematics (3)	
Educ 533	Graduate Studies in Elementary Education: Science (3)	
Educ 534	Graduate Studies in Elementary Education: Social Studies (3)	
Educ 59	e following: 77 Graduate Project (1–3) (total of 3) 78 Thesis (1–3) (total of 3)	
Electives	selected with approval of the adviser	6
	information, consult the chairman. he Program of Master's Degrees," page 77, and the Gradua	te Bulletin
The adviser	Readingapproved 31-33 units on the study plan will include the	following
tudies:	approved to the study plan win include the	Tonowing
Educ 510	Research Design and Analysis	3
Supporting	g courses from other disciplines	9
	or the concentration in reading	18
	Curriculum and Research: Reading (3)	
	Etiology of Reading Difficulties (3)	
	Analysis of Reading Difficulties (3)	
	Analysis of Reading Practices (3)	
07	Tii-i 1D- P- (2)	
educ 384	Linguistics and Reading (3)	
THE RESERVE TO SHARE THE PARTY OF THE PARTY	Word Perception Skills in Reading (3)	the she coll
	A Remedial Reading: Casework (3)	REVERMINE DE
	B Remedial Reading: Casework (3)	
Educ 597	Graduate Project (1-3)	
or	(solitation) eligible militation of the following desirable for the following states and the following states are the following states and the following states are the following states and the following states are the fol	
Educ 598	Graduate Thesis (1–3)	
or		
A compre	hensive examination	
For further	information, consult the chairman.	

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

216

TEACHER EDUCATION PRESERVICE COURSES

101 Reading Development (1)

An elective course for students enrolled at CSCF who wish to improve their reading efficiency. May be repeated for a maximum of three units of credit.

308 Education of Various Cultural Groups: Early Childhood (3)

A course designed for Head Start personnel and others engaged in the early education of culturally different children. Focus will be on the development of learning, curriculum content, and methodology related to various cultural groups. (2 hours lecture, 2 hours activity)

309 Fieldwork in the Education of Various Cultural Groups (3)

Observation and participation in classes for various cultural groups. Integrated with coursework in Education of Various Cultural Groups. Must be taken concurrently with Educ 308, (9 hours laboratory)

329 Fieldwork in Methods of Teaching in Elementary School (1)

Prerequisites: Educ 411 and admission to teacher education. Observation and participation in elementary school classrooms.

331A Elementary School Principles, Curricula and Methods (4)

Prerequisites: Educ 411, 496, Math Ed 103A and admission to teacher education. Must be taken concurrently with 331B. Principles, curricula, methods and materials of elementary school instruction with major emphasis on arithmetic, social studies and science. Includes audiovisual instruction, methods and techniques. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (2½ hours lecture, 1½ hour activity)

331B Elementary School Principles, Curricula and Methods (4)

Prerequisites: Educ 411, 496 and admission to teacher education. Must be taken concurrently with Educ 329 and 331A. Principles, curricula, methods and materials of elementary school instruction with major emphasis on language arts and reading. Two semester hours devoted to methods of reading instruction, including phonics. Required of all candidates for the standard teaching credential with specialization in elementary school teaching. Includes screening for admission to student teaching. (2½ hours lecture, 1½ hour activity)

339 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)

Prerequisites: Educ 331, three academic related courses, and admission to student teaching. Participation in a regular elementary school teaching program for the greater part of every school day. Includes a two-hour seminar each week in problems and procedures of elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum of 30 hours a week in an elementary school, 2 hours per week seminar.)

340 Principles and Curricula of Secondary Education (3)

Required first course in the professional sequence for the standard teaching credential with specialization in secondary teaching. Principles of secondary education in the United States: organization, curriculum, and teaching practices. Correlated with methods and materials courses in the major. Two hours of observation per week in selected junior and senior high school classes. Application for admission to teacher education is included. Each student is expected to complete all requirements for admission during Educ 340. (2 hours lecture, 2 hours fieldwork)

217

Teacher Education

380 The Teaching of Reading (3)

Curriculum and methods in the teaching of reading in the elementary and secondary schools. Examination and analysis of the approaches to reading in teachers' manuals and guides. Practical experience in preparing lessons in class-room teaching of reading.

431 Principles and Curricula of the Elementary School (2)

Prerequisite: Educ 411 or consent of instructor. An introductory course in elementary education. Stress on major principles and basic curricular considerations. Importance of the elementary school system to society.

432 Teaching-in the Elementary School

Prerequisite: Educ 411 or consent of instructor. Courses, listed dually in the School of Education and in the other appropriate departments dealing with objectives, methods, and materials of teaching the various subjects and areas in the elementary schools. The courses are professional education courses and applicable toward credential requirements. Detailed descriptions of the courses are to be found in the materials of other departments within this catalog.

For Lang Ed 432 Teaching Foreign Languages in the Elementary School (2)

. 436 Child Study Techniques for Teachers (3)

Prerequisite: Educ 331 or consent of instructor. Techniques the classroom teacher may use in understanding individual children within his classroom who do not respond to the teacher and his peers in typical ways.

437 Problems in Early Elementary Education (3)

Prerequisites: Educ 339 and consent of instructor. Study of current literature and recent research in the area of education of young children through individual and group study. Emphasis will be placed on problems centered in cognitive processes, content, structure, and instruction at the early elementary education level.

442 Teaching—in the Secondary School (2)

Prerequisites: 20 units in the major, Educ 411, 496, 340, admission to teacher education, and senior standing; or consent of instructor. A series of courses, with the exception of business and social science methods, listed dually in the School of Education and in the other appropriate departments, dealing with objectives, methods, and materials of teaching, including audiovisual instruction, the various subjects and areas in secondary schools. Required, before student teaching, of students presenting major in these areas or subjects for the standard teaching credential with specialization in secondary school teaching. Students without teaching experience must register concurrently in Educ 449 to complete a teacher aide assignment in high schools.

Art Ed 442 Teaching Art in the Secondary School (2)

Educ 442 Teaching Business in the Secondary School (2)

Educ 442 Teaching Social Science in the Secondary School (2)

Engl Ed 442 Teaching English in the Secondary School (2)

For Lang Ed 442 Teaching Foreign Languages in the Secondary School (2)

Journ Ed 442 Teaching Journalism in the Secondary School (2)

Math Ed 442 Teaching Mathematics in the Secondary School (2)

- Mu Ed 441 Teaching Music Theory and Appreciation in the Public Schools (2)
- Mu Ed 442 Teaching Vocal Music in the Public Schools (2)
- Mu Ed 443 Teaching Instrumental Music in the Public Schools (2)
- PE 442 Teaching Physical Education in the Secondary School (2)
- Sci Ed 442 Teaching Science in the Secondary School (2)
- Speech Ed 442 Teaching Speech in the Secondary School (2)
- Theatre Ed 442 Teaching Theatre in the Secondary School (2)

443 Principles of Core Curriculum (2)

Prerequisite: teaching experience or consent of instructor. Unity and interrelationships of human learning and behavior and the curricular processes and arrangements by which this may be achieved. Seminar on development, principles, and application of core curricula; guidance functions; evaluation; and roles of the teacher.

445 Junior High School Education (3)

Prerequisite: Educ 442 or 331 or consent of instructor. Seminar on principles and procedures for developing the junior high school program. Purposes, curriculum, and organization of the junior high school are stressed including examination of recent innovations and proposals. Designed for students with elementary or secondary backgrounds who plan to teach in the junior high school.

446 Secondary School Curriculum (3)

Prerequisite: student teaching or teaching experience or consent of instructor. Fundamentals of curriculum development. Seminar on current issues within secondary education. Curricular organization and current practices. Survey and evaluation of newer curricular programs.

449 Fieldwork in Methods of Teaching in Secondary Schools (1)

Prerequisite: Educ 340, 411, admission to teacher education or consent of instructor. Participation in the instruction of a secondary school class as a teacher aide. Integrated with coursework in the teaching of the major. Must be taken concurrently with Educ 442 and students must allow sufficient time in their schedules, at the same hour each day, to serve as a teacher aide.

451 Principles of Educational Measurement (3)

Prerequisite: Educ 411 or Psych 311. Development, validation, and application of the principles of educational measurement. Construction and use of informal and standardized achievement tests. Summary and interpretation of results of measurement.

491 Audiovisual Education (2)

Prerequisites: Educ 411, 442, or consent of instructor. Media in communication, psychological bases, development, curricular function, evaluation. Survey of equipment and materials available, preparation of instructional materials for classroom use. (1 hour lecture, 2 hours activity)

492 Television in the Classroom (2)

Prerequisite: Educ 411 or consent of instructor. Television as a vehicle for instruction, information, and enrichment. General theory of media in classroom, psychological bases, curricular capabilities and limitations of equipment. Responsibility of the classroom teacher. Practice in utilization process. (1 hour lecture, 2 hours activity)

Teacher Education

493 Production of Audiovisual Materials (2)

Prerequisite: Educ 491 or consent of instructor. Exploration and development of audiovisual materials. Students will participate in script writing, story board, photography and tape production. Experience will be provided in producing graphics, charts and bulletin boards. (1 hour lecture, 2 hours activity)

496 Senior Educational Practicum (1-3)

Conduct at an advanced level an educational practicum experience with an individual under the direction of a faculty member. May be repeated for a maximum of six units of credit.

499 Independent Study (1-3)

Prerequisites: senior or graduate standing, consent of instructor and department prior to registration. Conduct of an individual investigation under supervision of a faculty member; investigation might be an experiment, a library study, or a creative project; only students of demonstrated capacity and maturity will be approved; adequate prerequisite study necessary. May be repeated for credit.



GRADUATE COURSES

506 Curriculum and Research in Reading (3)

Prerequisite: consent of instructor. Study of curriculum and research in reading, including materials, organization, and methods of instruction.

509 Theory and Practice in Educational Measurement (3)

Prerequisite: Educ 411 or Psych 311. Introduction to basic concepts, theory, and procedures for construction of informal and standardized tests. Application of measurement theory and statistical techniques toward problems of analysis, scaling, norming, and interpretation of test results. Practice in item writing for short classroom tests and intensive analysis of selected commercial standardized tests.

510 Research Design and Analysis (3)

Prerequisites: bachelor's degree, Educ 509 or the equivalent. Elements of design, instrumentation, treatment of data, hypothesis testing and inference, and analysis of educational data. Develop a research proposal. Practice in analyzing and evaluating research reports.

511 Survey of Educational Research (3)

Prerequisites: Educ 509, teaching experience. Review of descriptive statistics and statistical inference as applied to educational problems. Analysis of representative research papers. Principles of research design. Prepare a research proposal.

516 Etiology of Reading Difficulties (3)

Prerequisite: teaching experience, Educ 506 or consent of instructor. Studies of the factors underlying learning disabilities in reading in children, adolescents and young adults.

530 Graduate Studies in Elementary Education: Foreign Language (3)

Prerequisite: Educ 339, 739, or consent of instructor. Seminar for the study of pertinent investigations and their application in the classroom together with significant curriculum developments and organization in the newest area facing the elementary school educator. Criteria for appraising programs, personnel, and materials also will be discussed.

531 Graduate Studies in Elementary Education: Language Arts (3)

Prerequisite: Educ 510 or consent of instructor. Seminar for advanced study of trends and problems in teaching the fundamental skills of communication in the elementary school. Analysis of research in the language arts and related disciplines as background for curriculum development.

532 Graduate Studies in Elementary Education: Mathematics (3)

Prerequisites: Math Ed 103A, Educ 339 or 739, or consent of instructor. Seminar for the study of significant research, curricular developments and materials, criteria for planning and improving mathematics programs and instruction.

533 Graduate Studies in Elementary Education: Science (3)

Prerequisite: Educ 339 or 739 or consent of instructor. Seminar for the study of significant research in elementary school science. Criteria for planning and improving science programs and the development of materials.

534 Graduate Studies in Elementary Education: Social Studies (3)

Prerequisite: Educ 339 or 739, or consent of instructor. Seminar for the study of significant research developments and materials, criteria for planning and improving social studies programs and current techniques of teaching.

Teacher Education

537 Seminar for Elementary Education (3)

Prerequisite: Educ 339 or 739 or consent of instructor. A study of problems and issues in elementary education, their causes and possible solutions.

547 Seminar for Secondary Education (3)

Prerequisite: Educ 749 or consent of instructor. Persistent problems in secondary education and survey of related literature; causes of and solutions for these problems. Application of scientific method to educational problems, sources of educational research, and to techniques of cooperative thinking.

581 Analysis of Reading Difficulties (3)

Prerequisites: bachelor's degree, teaching experience, Standard Teaching Credential, Educ 506 or consent of instructor. Analysis and diagnosis of reading difficulties. Techniques and methods or prevention and treatment. Individual remediation of student. Primary through secondary.

582 Analysis of Corrective Reading Practices (3)

Prerequisites: Educ 516, 581, and consent of instructor. Critical evaluation of reading and remedial reading practices. Short-term project in a school situation.

583A,B Remedial Reading Casework (3)

Prerequisites: Educ 582, and consent of instructor. Fieldwork in diagnosis and remediation in reading through casework technique. Conferences with teachers, parents, consultants, and administrators.

584 Linguistics and Reading (3)

A study of linguistics and its influence on reading materials and instruction. An analysis of trends in reading and changes affected by the science of linguistics.

585 Word Perception Skills in Reading (3)

Study of word perception skills in the process of learning to read. A developmental hygiene of child vision. Visual anomalies and their applications to reading disorders.

595 Advanced Studies (1-3)

Graduate seminars designed to develop professional competencies in such areas as behavior, teaching strategies, educational technology, program development, communication theory and interpersonal relations. May be repeated for credit.

597 Project (1-3)

Prerequisite: consent of instructor. Individual research on an empirical project, with conferences with the instructor, culminating in a project.

598 Thesis (1-3)

Prerequisite: consent of instructor. Individual research with conferences with the instructor, culminating in a thesis.

599 Independent Graduate Research (1-3)

Prerequisite: consent of instructor. Open to qualified graduate students desiring to pursue independent inquiry.

PROFESSIONAL COURSES IN THE POSTGRADUATE PROGRAM

709 Supervision of Student Teaching (3)

Prerequisites: possession of a teaching credential and one year of teaching experience. Designed for teachers who supervise student teachers. Emphasis on principles and procedures of effective supervision and research.

721 Philosophy and Objectives of Community College Education (2)

Prerequisite: postgraduate standing or consent of instructor. Origins of the junior college movement in higher education in the United States; economic, technological, and social forces creating needs for new and different post-high school education; objectives of community college education; relationships to secondary and higher education; functions of the community college; curriculum development and organization.

739 Student Teaching in the Elementary School and Student Teaching Seminar (8 or 4)

Prerequisites: Educ 331, three academic related courses, admission to student teaching, and postgraduate status. Participation in a regular elementary school teaching program for the greater part of every school day. Includes a two-hour seminar each week in problems and procedures of elementary school teaching. Concurrent enrollment in other courses is discouraged. (Minimum of 30 hours a week in an elementary school, 2 hours per week seminar.)

744 Principles of Community College Teaching (3)

Prerequisite: postgraduate standing or consent of instructor. Psychological foundations of community college teaching, measurement and evaluation of learning. Educational and philosophical bases for instructional procedures in the community college. Instructional procedures including audiovisual materials, community college class observations. (2 hours seminar, 3 hours fieldwork)

749 Student Teaching In—in the Secondary School and Seminar (6 or 2)

A series of courses in student teaching and seminars listed dually in the School

of Education and in the other appropriate departments.

Prerequisites: Educ 442, 449, and admission to student teaching. Student teaching for the general secondary credential or the standard teaching credential with specialization in secondary school teaching. Participation in a regular secondary school teaching program for half-days for a full semester. Includes a seminar each week in problems and procedures of secondary school teaching, under the direction of the respective college supervisor. (Minimum of 15 hours a week in a secondary school; 2 hours per week in seminar)

- Art Ed 749 Student Teaching in Art in the Secondary School and Seminar (6)
- Educ 749 Student Teaching in Business in the Secondary School and Seminar (6
- Educ 749 Student Teaching in Social Science in the Secondary School and Seminar (6)
- Engl Ed 749 Student Teaching in English in the Secondary School and Seminar (6)
- For Lang Ed 749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6)
- Journ Ed 749 Student Teaching in Journalism in the Secondary School and Seminar (6)
- Math Ed 749 Student Teaching in Mathematics in the Secondary School and Seminar (6)

Teacher Education

- Mu Ed 749 Student Teaching in Music in the Secondary School and Seminar (6)
- PE 749 Student Teaching in Physical Education in the Secondary School and Seminar (6)
- Sci Ed 749 Student Teaching in Science in the Secondary School and Seminar (6)
- Speech Ed 749 Student Teaching in Speech in the Secondary School and Seminar (6)
- Theatre Ed 749 Student Teaching in Theatre in Secondary School and Seminar (6)

799 Community College Student Teaching and Seminar (4)

Prerequisite: Educ 744. Student teaching in the student's major field in a cooperating community college for one semester. Weekly seminar on curriculum development and organization in the community college, instructional procedures and materials, and instructional problems of the community college student teacher. (Minimum of 9 hours a week in a community college; 2 hours per week in seminar)



EGR

ENGINEERING

SCHOOL OF ENGINEERING

Dean: Robert G. Valpey

FACULTY

George C. Chiang

Chairman, Civil Engineering & Engineering Mechanics

Eugene B. Hunt

Chairman, Electrical Engineering

Floyd W. Thomas, Jr.

Chairman, Mechanical & Aerospace Engineering

George Cohn, Munir El-Saden, Euyen Gott, Walter Hudetz, Jack Kemmerly, Jesa Kreiner, Sundaram Krishnamurthy, Young Duck Kwon, Wai Kok Lim, Charles Medler, Peter Othmer, George Raczkowski, James Rizza, Jesus Tuazon, Mahadeva Venkatesan

The School of Engineering offers programs at the undergraduate and graduate levels. The individual courses are described in the section of this catalog on announcement of courses. At the undergraduate level the school prescribes certain patterns of courses combined with those of other academic departments and schools of the college, as a program of 132 semester units leading to the degree of Bachelor of Science in Engineering. At the graduate level the school offers a sequence of courses as a program of 30 semester units leading to the degree of Master of Science in Engineering. In the graduate program specific options in major fields are offered.

BACHELOR OF SCIENCE IN ENGINEERING

The objective of the undergraduate engineering program is to form a broad base of science, mathematics, social science, humanities and engineering science—coupled with enough specialization in an area of concentration to initiate a successful engineering career. Students are prepared to enter directly into engineering

practice or to continue further education at the graduate level.

The heart of the engineering program is a core curriculum somewhat broader than that of the traditional engineering program. This core includes courses in mathematics, physics, chemistry, basic engineering sciences, social sciences and the humanities and provides a firm basis for more specialized knowledge at an advanced level. Beyond the basic core curriculum a student chooses a minimum of 30 units of technical electives to complete his program with enough specialization in an area of emphasis to initiate a successful engineering career. During the first 2½ years of study all students in engineering take the same program emphasizing the inter-relationship of the primary engineering subjects which form the broad background required of modern-day engineers.

The program of 132 semester units presumes that the entering student brings a high school preparation which includes geometry, trigonometry and two years of algebra. Physics and chemistry are highly desirable. A course in mechanical drawing will be helpful. Students deficient in mathematics must take a special preparatory course, Engineering 100, Introduction to Analysis, or equivalent, which will not

carry credit for graduation.

TRANSFER STUDENTS

A smooth transition from a community college into upper-division engineering is assured when the following program, as a minimum, has been completed. Students deficient in any of these areas may look to our summer catalog for offerings that may make up any deficiencies:

Minimum	Number of	
Semest	er Units	

Analytic geometry and calculus	14	
Chemistry (for engineering and science majors)	8	
Physics (for engineering and science majors)	12	
Engineering graphics	2	
Properties of engineering materials		
Computer programming (FORTRAN)	3	
Electric circuits	4	
Analytical mechanics (statics)	3	

The School of Engineering subscribes to the following statement approved by the Engineering Liaison Committee of the State of California:

Based on the 1970–71 requirements, any student of a California community college, with a stated major in engineering, who presents a transcript showing satisfactory completion of the following proposed core program in lower division, will be able to enroll in this institution with regular junior standing; and further, assuming normal progress, said student can complete an engineering program in four additional semesters with a regular bachelor's degree, presuming, upon transfer, that he has completed at least 50 percent of the graduation unit requirements in that program. Completion of a specific program of his choice will be dependent upon his proper selection of elective courses.

Subject Area Semester Units	Quarter Units
Mathematics (beginning with Analytical Geometry and	
Calculus and completing a course in ordinary differential equations) 16	24
Chemistry (for engineers and scientists)	12
Physics (for engineers and scientists) 12	18
Statics3	4
Graphics and Descriptive Geometry3	4
Computers (digital)2	3
Orientation and Motivation	1
Properties of Materials 3	4
Electric Circuits3	4
Electives 11-15	17-23

TECHNICAL ELECTIVES

During the junior year the student shall submit a proposed study plan to his faculty adviser covering the sequence of upper-division level courses totaling not less than 30 units in engineering and closely related fields. His study plan shall include a sufficient number of courses to provide continuity and depth of understanding in a given area of specialization. Such plan must be approved by his adviser before taking any technical electives. A student shall include at least two senior-level engineering laboratories and one design course within his area of emphasis in the 30 units of technical electives. Examples of areas of emphasis currently available are: electronics, communications, control systems, digital systems, aeronautics, heat and mass transfer, thermal sciences, mechanical design, structural systems and design, applied mechanics, environmental studies, etc. In lieu of these areas of emphasis a student may request the engineering science program. The program in engineering science is to be selected by the student and his adviser and submitted for approval to a committee of the School of Engineering (supplemented, if appropriate, by members of the science and mathematics faculty). The courses are to be selected from upper-division electives in engineering, physics, chemistry, mathematics and biology (additional prerequisites for science courses may be required), to meet a special and specific engineering science objective of the student

such as engineering physics, computer science, premedical, etc. Note that specific engineering courses, in addition to the two senior-level engineering laboratories and one design course, may be required by the adviser or the committee.

Work taken at another college or university on which a grade of D was earned

may not be substituted for upper-division courses.

MINIMUM REQUIREMENTS FOR UNDERGRADUATE DEGREE

*Math 150A, B Analytic Geometry and Calculus	Lower Division Science and Mathematics (All required for B.S.)	
Math 281 Linear Algebra with Differential Equations 3 Chem 101A General Chemistry 5 Chem 105 General Chemistry for Engineers 3 Physics 225A, B, C Fundamental Physics 9 Physics 226A, B, C Fundamental Physics Laboratory 3 Non-engineering General Education 28 The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 74), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses. Lower Division Engineering (All required for B.S.) Egr 101 Introduction to Engineering 1 Egr 102 Graphical Analysis 2 Egr 201 Mechanics 3 Egr 202 Properties of Engineering Materials 3 Egr 205 Digital Computation 3 Egr 300 Electric Circuits 3 Egr 300 Electric Circuits Laboratory 1 Egr 302 Dynamics 3 Egr 303 Electronics Laboratory 2 Egr 304 Thermodynamics 3 Egr 305 Transport Processes 3 Egr 306A Unified Laboratory 2 Egr 307 Seminar in Engineering Economy 2 Egr 308 Engineering Analysis 3 Egr 370 Seminar in Engineering Economy 2 Technical Electives 30	*Math 150A, B Analytic Geometry and Calculus	
Math 281 Linear Algebra with Differential Equations 3 Chem 101A General Chemistry 5 Chem 105 General Chemistry 6 Chem 105 General Chemistry 6 Physics 225A, B, C Fundamental Physics 9 Physics 226A, B, C Fundamental Physics Laboratory 3 Non-engineering General Education 28 The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 74), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses. Lower Division Engineering (All required for B.S.) Egr 101 Introduction to Engineering 1 1 Egr 102 Graphical Analysis 2 2 Egr 201 Mechanics 3 Egr 202 Properties of Engineering Materials 3 Egr 205 Digital Computation 3 Egr 205 Digital Computation 3 Upper Division Engineering (All required for B.S.) Egr 300 Electric Circuits 3 3 Egr 301 Electronics Laboratory 1 1 Egr 302 Dynamics 3 3 Egr 303 Electronics Laboratory 2 2 Egr 304 Thermodynamics 3 3 Egr 305 Transport Processes 3 Egr 306A Unified Laboratory 2 2 Egr 308 Engineering Analysis 3 Egr 309 Seminar in Engineering Analysis 3 Egr 370 Seminar in Engineering Economy 2 2 Egr 370 Electrice Circuits Electives 30	Math 250 Intermediate Calculus	
Chem 105 General Chemistry for Engineers	Math 281 Linear Algebra with Differential Equations	
Physics 225A, B, C Fundamental Physics	Chem 101A General Chemistry	
Non-engineering General Education The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 74), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses. Lower Division Engineering (All required for B.S.) Egr 101 Introduction to Engineering	Chem 105 General Chemistry for Engineers	3
Non-engineering General Education The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 74), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses. Lower Division Engineering (All required for B.S.) Egr 101 Introduction to Engineering	Physics 225A, B, C Fundamental Physics	9
Non-engineering General Education The engineering student will take at least 24 units from Areas II and III of the general education requirements for the bachelor's degree (see page 74), six units of which may meet the U.S. history and government requirements. He will follow, as a minimum, the collegewide requirements, adding courses at his discretion to make 24 units. An additional four units, for a total of 28 must be specifically approved by his adviser and will be recommended to assure the best balance for the student's education. A student shall be limited to a maximum of six units of activity courses. Lower Division Engineering (All required for B.S.) Egr 101 Introduction to Engineering 1 Egr 102 Graphical Analysis 2 Egr 202 Properties of Engineering Materials 3 Egr 205 Digital Computation 3 Egr 205 Digital Computation 3 Egr 206 Digital Computation 3 Egr 207 Properties of Engineering Materials 3 Egr 300 Electric Circuits 3 Egr 300 Electric Circuits 3 Egr 301 Electric Circuits Laboratory 1 Egr 302 Dynamics 3 Egr 303 Electronics Laboratory 1 Egr 304 Thermodynamics 3 Egr 305 Transport Processes 3 Egr 306A Unified Laboratory 2 Egr 308 Engineering Analysis 3 Egr 370 Seminar in Engineering 1 Egr 370 Seminar in Engineering Economy 2 Egr 370 Seminar in Engineering Economy 2 Egr 370 Seminar in Engineering Economy 2 Egr 370 Electives 30 Electrice Electives 30 Electronice Electives 30 El		3
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	Technical Electives	30
	Total	

Students with inadequate preparation for Mathematics 150A will take Engineering 100, Introduction to Analysis.

DETAILED OUTLINE OF TYPICAL * EIGHT-SEMESTER PROGRAM FOR B.S. IN ENGINEERING (132 Units)

Units Semester 1 Freshman General Education Elective ... 4 Math 150A Calculus 4
Chem 101A General Chemistry 5
Egr 101 Introduction to Engineering 1 Egr 102 Graphical Analysis 16 Semester 2 Freshman Math 150B Calculus Physics 225A Fundamental Physics (Mechanics) Physics 226A Fundamental Physics Laboratory Chem 105 Chemistry (for engineers) Egr 205 Digital Computation General Education Elective 17 Semester 3 Sophomore General Education Electives Math 250 Intermediate Calculus Physics 226B Fundamental Physics Laboratory 1
Egr 201 Mechanics 3 Semester 4 Sophomore General Education Electives

Math 281 Linear Algebra with Differential Equations 6 Egr 202 Properties of Engineering Materials
Physics 225C Fundamental Physics (Modern Physics)
Physics 226C Fundamental Physics Laboratory Egr 300 Electric Circuits Semester 5 Junior Egr 300L Electric Circuits Laboratory ________1 Egr 304 Thermodynamics Egr 305 Transport Processes 3 Egr 306A Unified Laboratory 1 Egr 302 Dynamics
Egr 308 Engineering Analysis Semester 6 Junior Egr 303 Electronics Engineering Technical Electives

Note: This program is merely a guide. The student may lighten his academic load each semester to meet his needs.

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Note: A student may be required to take the engineering mathematics review course, 701A, B. This course is open to all who may feel the need for such a refresher course. No credit.

MASTER OF SCIENCE IN ENGINEERING

Applicants, as well as continuing students, should read carefully the college requirements for master's degree programs, page 77.

The procedural steps for admission to and the completion of the Master of Science in Engineering are as follows:

Admission Procedure

1. Apply for admission to the college in unclassified graduate status and declare the objective to be a master of science in engineering. Proof of a degree from an accredited college or university must be supplied. This must be taken care of at the Office of Admissions before the dates established in the college calendar.

2. Apply for admission to the School of Engineering master of science program. This must be taken care of at the office of the School of Engineering after admission to the college but before registration.

Prerequisites

Admission to the engineering program requires a 2.5 undergraduate grade point average; however, students may be considered with grade deficiencies. Any deficiences must be made up, and will require six or more units of adviserapproved courses with at least a 3.0 average in addition to those required for the degree. A committee of the engineering faculty will evaluate each student's record for specific course deficiences in the engineering field. Making suitable allowance for actual engineering experience, the committee will require each student, prior to admission to the program, to make up such deficiences as the committee determines.

Note: A student may be required to take the engineering mathematics review courses, 701A, B. These courses are open to all who may feel the need for such refresher courses. They are to be taken in addition to those required for the degree.

Admission to Classified Graduate Status

Achievement of this status requires the following:

1. Meeting the prerequisites of the previous paragraph.

2. Before completing nine units at CSCF toward a M.S. degree, a student shall fill out an application card for classified status and make an appointment with the adviser at the office of the School of Engineering.

3. Preparing, in consultation with his adviser, an approved graduate study plan.

Advancement to Candidacy

Achievement of this status requires the following:

1. Having been granted classified status in the Master of Science in Engineering

2. Having completed 12 units of coursework on his master's degree study plan, including six units of 500-level courses with a GPA of not less than 3.0.

3. Filing an advancement to candidacy card in the Graduate Office.

Graduation

Final achievement of the Master of Science in Engineering requires:

- 1. Having been admitted to candidacy status.
- Filing a request for check on completion of requirements in the Graduate Office prior to the appropriate deadline.
- 3. Having completed 30 units of approved work with an overall GPA of not less than 3.0.
- 4. Completing satisfactorily a final comprehensive examination.
- Receiving approval of the faculty of the School of Engineering and the Dean of Graduate Studies.

The Program for the Master of Science in Engineering

Qualification for the Master of Science in Engineering requires the following:

- Completion of a minimum of 30 units of approved upper division or graduatelevel work including:
 - (a) a minimum of six units of approved upper division or graduate mathematics (certain engineering courses may fulfill this requirement).
 - (b) a minimum of 15 units of approved 500 level courses.
- 2. An overall GPA of 3.0.
- 3. Satisfactory completion of a final comprehensive examination.

A candidate for the Master of Science in Engineering may pursue one of five options currently offered by the School of Engineering:

Electrical engineering

Mechanical and aerospace engineering

Structural engineering and engineering mechanics

Systems engineering

Engineering science

A student is normally required to select a minimum of 15 units within these options. These 15 units may be 400-level and 500-level courses. The 500-level courses are listed below:

Electrical Engineering	Units
Egr 501A,B Microwaves	
Egr 503 Information Theory and Coding	3
Egr 504 Linear Network Synthesis	
Egr 505 Nonlinear Control Systems	
Egr 506 Advanced Digital Computer Systems	
Egr 507 Statistical Communication Theory	3
Egr 513 Optimal Control Systems	3
Egr 514A, B Software Systems Design	3,3
Fgr 515A, B Quantum Electronics	3,3
Egr 521A, B Antenna Theory	3,3
Egr 523 Solid State Devices and Integrated Circuits	3
Egr 553A, B Plasma Dynamics	3,3
Egr 554 Hybrid Computation	
Egr 555 Electromagnetic Field Theory	
Egr 556 Radar Systems	
Egr 557 Sampled-Data Systems	
Egr 559 Active Network Synthesis	
Egr 570 Seminar in Electrical Engineering	
Egr 596A, B, C, D Special Topics in Engineering	1-3

Mechanical	and Aerospace Engineering	Units
Egr 508	Intermediate Fluid Mechanics	3
Egr 511	Advanced Dynamics	3
Egr 512	Gyrodynamics	3
Egr 516	Advanced Principles of Heat Transfer	3
Egr 518	Advanced Fluid Mechanics	3
Egr 520	Incompressible Boundary Layer Theory	3
Egr 522	Theory of Hydrodynamic Lubrication	3
Egr 524	Advanced Thermodynamics	3
Egr 525	Compressible Boundary Layer Theory Advanced Strength of Materials	3
Egr 530	Advanced Strength of Materials	3
Egr 569	Orbital Mechanics	3
Egr 573	Aerospace Guidance Systems	3
Egr 575	Kinetic Theory and Statistical Thermodynamics	3
Egr 596A	Aerospace Guidance Systems Kinetic Theory and Statistical Thermodynamics A, B, C, D Special Topics in Engineering	1-3
Structural I	ingineering and Engineering Mechanics	
Egr 509	Theory of Plates and Shells	
Egr 510	Numerical and Approx Meth. in Structural Mech.	3
Egr 511	Advanced Dynamics	
Egr 517	Theory of Inelasticity	3
Egr 518	Theory of Inelasticity Advanced Fluid Mechanics	
Egr 519	Advanced Structural Mechanics	3
	Advanced Strength of Materials	
Egr 545	Advanced Structural Design	3
Egr 547	Advanced Dynamics of Structures Theory of Elastic Stability	3
Egr 549	Theory of Elastic Stability	3
Egr 577	Reliability Analysis of Structures	
Egr 596	A, B, C, D Special Topics in Engineering	1-3
Systems En		
Egr 581		3
Egr 582	Estimation Theory in Systems Engineering	3
Egr 585	Estimation Theory in Systems Engineering Optimization Techniques in Systems Engineering Operational Analysis Techniques in Systems Engineering	3
Egr 587	Operational Analysis Techniques in Systems Engineering	3
Egr 592	Advanced Engineering Analysis	3
Egr 596A	A, B, C, D Special Topics in Engineering	1-3
(Up to r	nine units in systems engineering may be selected from approved sthe School of Business Administration and Economics.)	ubjects
Engineering	g Science	
(supplemental ulty). The objective of	gram in engineering science is to be selected by the student a submitted for approval to a committee of the School of Engineed, if appropriate, by members of the science and mathematic courses selected are to meet a special and specific engineering of the student, such as engineering physics.	neering ics fac- science
In additi	on to those courses offered in the specific options, the following by to any option, though they are not necessarily required.	g three
	STA, B. Playma Dymamics	Units
Egr 597	Project All Andrews An	16
Egr 598		1.6
	Independent Graduate Research	1-3
See also	her information, consult the School of Engineering. "The Program of Master's Degrees," page 77, and the Graduate E	Bulletin.

ENGINEERING COURSES

100 Introduction to Analysis (4)

Prerequisites: two years of high school algebra, one year of high school geometry. Algebraic, exponential and trigonometric functions and relations. Coordinate geometry and vectors. Real and complex numbers. Designed to prepare students better for a first course in calculus. Does not carry major or related area credit for engineering, mathematics, quantitative methods or science majors.

101 Introduction to Engineering (1)

An introduction designed to familiarize the student with the nature, responsibilities and opportunities of the profession.

102 Graphical Analysis (2)

Graphics as fundamental means of communication in engineering analysis and design; development of spatial visualization; freehand sketching; descriptive geometry and modern engineering drawing practice. Methods of engineering design and design project. Graphical computation; nomography, representation and analysis of empirical data. (6 hours lecture-laboratory)

110A,B The Man-Made World (3,3)

Prerequisite: must be non-science, non-mathematics, non-engineering major; corequisite: Egr 111A,B (laboratory). The methodology of the technological age. The use of models of the real world to arrive at rational decision making. Control, amplification, and feedback.

111A,B The Man-Made World (1,1)

Corequisite: Egr 110A,B. Laboratory to accompany Egr 110A,B. Simulation of real situations with models.

201 Mechanics (3)

Prerequisites: Math 150B and Physics 225A. An introductory development of the fundamentals of statics with emphasis on application to strength of materials.

202 Properties of Engineering Materials (3)

Prerequisites: Chem 101 and Egr 201. Scientific and engineering principles important in the selection and design of engineering materials, variables influencing material properties, concepts of stress and strain, Hooke's law. Equilibrium of rigid bodies, introduction to metallurgy; material models; dislocations and other defects in solids, strengthening mechanisms, modes of failure.

205 Digital Computation (3)

Prerequisite: Egr 101; corequisite: Math 150A. Introduction to computers and their application in engineering. Elementary FORTRAN programming language, numerical methods for the solution of algebraic and transcendental equations and systems of linear algebraic equations; numerical integration.

300 Electric Circuits (3)

Prerequisites: Physics 225B and Math 250; corequisite: Egr 300L. Ohm and Kirchhoff laws; mesh-current and nodal analyses methods; basic network theorems; transients in RL, RC and RLC circuits; phasors, sinusoidal analysis; current, voltage and power relationships in single phase circuits; complex frequency and S-plane plots; frequency response and resonance; and magnetically coupled circuits.

300L Electric Circuits Laboratory (1)

Corequisite: Egr 300. Electrical measurement techniques; experimental investigation of the behavior of simple resistive circuits; transient response RLC circuits; frequency response and resonance; and magnetically coupled circuits. (3 hours laboratory)

301 Strength of Materials (3)

Prerequisites: Math 250 and Egr 202. States of stress and strain. Analysis and design of structural elements (pressure vessels, beams, torsion bars, springs), fracture criteria, statically indeterminate problems, energy methods, buckling of columns.

302 Dynamics (3)

Prerequisites: Math 250 and Egr 201. Kinematics and kinetics of particles and rigid bodies, Newton's laws, work and energy, impulse and momentum. Solution of problems by using vector approach is emphasized.

303 Electronics (3)

Prerequisites: Egr 300 and 300L; corequisite: 303L. Characteristics and applications of the ideal diode, semiconductor materials and the p-n junction, field-effect transistors, bipolar-junction transistors, vacuum tubes; applications of electronic devices (rectifiers, clippers, clampers, amplifiers).

303L Electronics Laboratory (2)

Corequisite: Egr 303. Experimental study of semiconductor diodes and transistors; electronic circuits, including rectifiers, limiters, clampers, amplifiers and other applications. (1 hour lecture, 3 hours laboratory)

304 Thermodynamics (3)

Prerequisites: Chem 105 and Egr 201. The study of energy and its transformation which encompasses heat and work and the conservation of energy, the concept of entropy and its relation to other system properties. The ideas are conveyed through the detailed study of ideal gases, heat engines and refrigeration (both ideal and actual).

305 Transport Processes (3)

Prerequisites: Math 250 and Egr 201. The study of one-dimensional steady heat conduction, radiation heat transfer, fluid statics, ideal and real fluid flows, free and forced heat convection.

306A Unified Laboratory (1)

Prerequisite: Egr 202 or equivalent; corequisite: Egr 305. Observations and measurements in the laboratory as an introduction to the experimental method. Static and dynamic measurements are made on simple engineering systems (beams, columns, pendulum, gyroscopes) using mechanical and electrical transducers. Report writing is emphasized. (3 hours laboratory)

306B Unified Laboratory (2)

Prerequisites: Egr 305 and 306A. A continuation of Egr 306A. More complex engineering systems are considered with fluid flow and thermal measurements emphasized in the laboratory. Lecture deals with instrumentation theories and the design of engineering experiments. The students' ability to express theoretical concepts and experimental efforts via the technical report is further enhanced. (1 hour lecture, 3 hours laboratory)

308 Engineering Analysis (3)

Prerequisite: Math 281 or consent of instructor. Fourier series, Fourier transforms, Laplace transforms, complex analysis (residues and contour integration), vector analysis; engineering applications.

309 Networks and Transmission Lines (3)

Prerequisites: Egr 300 and 300L. Continuation of Egr 300. Two-port network theory, network topology, polyphase circuits, transmission line theory.

310 Electronic Circuits (3)

Prerequisites: Egr 303, 303L and 308. Continuation of 303, multistage amplifiers and feedback, frequency characteristics of amplifiers, tuned amplifiers, frequency characteristics and stability of feedback amplifiers, oscillators and power amplifiers.

310L Electronics and Circuits Laboratory (2) (Formerly 315)

Corequisite: Egr. 310. Experimental study of discrete elements and integrated circuits such as emitter and source followers, differential amplifiers, tuned amplifiers, power amplifiers, feedback amplifiers and oscillators. (1 hour lecture, 3 hours laboratory)

311 Field Theory (3)

Prerequisites: Physics 225B and Math 281. Fundamental concepts and experimental background underlying the formulation of electric, magnetic and electromagnetic field theory. Electric and magnetic fields produced by charge and current distributions. Effect of magnetic, dielectric and conducting materials. Forces produced on charges, currents and material media. Electromagnetic and magnetoelectric induction. Capacitance, inductance and resistance.

312 Linear System Analysis (3)

Prerequisites: Egr 300, 302 and 308. Engineering analogies (models); system concepts (block diagrams; signal graphs; transient and frequency response; Bode plots; stability; transfer functions; feedback; and Nyquist polar diagrams); non-dimensionalization of functions and analysis of distributed parameter systems—with engineering applications.

316 Applied Thermodynamics (3)

Prerequisites: Chem 105, Egr 205 and 304. Continuation of Egr 304, additional coverage of power and refrigeration cycles. Maxwell's relations, mixtures of real and ideal fluids, chemical reactions (emphasis on combustion), phase and chemical equilibrium.

320 Metallurgy (3)

Prerequisite: Egr 202. Structure and properties of metals and alloys, influences of mechanical and thermal treatments, plastic deformation, work hardening and recrystallization, grain growth, alloy diagrams, solution hardening, diffusion hardening, precipitation hardening, the iron-carbon system, composite materials, brittle, creep and fatigue failures.

324 Soil Mechanics and Foundations (3

Prerequisites: Egr 201 and 301. Soil properties and soil action as related to problems encountered in engineering structures; compression shear strength, stability and lateral earth pressures.

324L Soil Mechanics and Foundations Laboratory (1)

Corequisite: Egr 324. Laboratory exercises supporting Egr 324. (3 hours laboratory)

326 Structural Design (3)

Prerequisite: Egr 301. Elements of the design of steel, timber members. Connection details. Design of complete structures for both vertical and lateral loads.

331 Mechanical Behavior of Materials (3)

Prerequisite: Egr 202. Plastic deformation mechanisms, treatment of plastic deformation, fatigue, creep and fracture. Case studies.

333 Introduction to Aerodynamics (3)

Prerequisite: Egr 305. Kinematics of fluid flow, classification of flow fields, Euler and Navier-Stokes equations, the Bernoulli equation, flow measurement, wind tunnel testing laminar and turbulent flow through ducts of varying cross-sectionaerodynamic forces, effect of Reynolds number and Mach number.

335 Mechanical Analysis (3)

Prerequisites: Egr 202 and 302; corequisite: Egr 335L. Kinematics and dynamics of mechanisms, analysis of linkages, gears, cams, etc. using analytical and graphical techniques, balancing.

335L Mechanical Analysis Laboratory (1)

Corequisite: Egr 335. Analytical and graphical techniques will be used in solving engineering type problems in mechanical design. (3 hours laboratory)

360 Electrical Engineering Design Projects Laboratory (3)

Prerequisites: Egr 309 and 310L, within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the field of electrical engineering. (1 hour lecture, 6 hours laboratory)

361 Mechanical and Aerospace Design Projects Laboratory (2)

Prerequisite: within 20 units of graduation. The application of fundamental engineering principles to typical design problems in the mechanical/aerospace engineering field. (6 hours laboratory)

370 Seminar in Engineering (1)

Prerequisite: senior standing in engineering. The engineering profession, professional ethics, and related topics.

371 Technical Seminar in Engineering (1)

Prerequisite: senior standing in engineering. Recent developments in engineering. Oral and written reports.

375A Electrical Engineering Laboratory (2)

Prerequisites: Egr 309, 310 and 310L. Bridge measurements of circuit parameters at audio and radio frequencies; slotted-line measurements; experimental studies of feedback, regulator and other electronic circuits; spectrum measurements; time-domain reflectometry. (6 hours laboratory)

375B Electrical Engineering Laboratory (2)

Prerequisite: Egr 375A. Laboratory study of calibration methods and instruments; microwave measurements. (6 hours laboratory)

376A Mechanical Engineering Laboratory (2)

Prerequisites: Egr 306B and 308. Experimental studies of dynamic systems, error analysis, simulation and solution of dynamic problems on the analog computer. (6 hours laboratory)

376B Mechanical Engineering Laboratory (2)

Prerequisites: Egr 306B and 316. A laboratory investigation of mass transfer, heat transfer, and thermodynamic phenomena and their interaction with mechanical systems. (6 hours laboratory)

377 Structural Engineering Laboratory (2)

Prerequisite: senior standing in engineering. Experimental studies of structural mechanics; plastic deformation of steel beams and frames, stress and deformation studies of concrete structures. Dynamic response of structures. (6 hours laboratory)

401 Dynamics of Machines (3)

Prerequisite: Egr 335. The study of masses, motions and forces in machines. Static forces, inertia forces, balancing of machines and the principles of the gyroscope, mechanical vibrations, critical speeds are some of the topics covered.

402 Digital Logic (3)

Prerequisite: Egr 205 or equivalent. Introduction to digital computers, Boolean algebra, number representations. Analysis, simplification and synthesis of combinational and sequential networks.

402L Digital Techniques Laboratory (1)

Corequisite: Egr 402. Experimental study of digital logic and switching circuits. (3 hours laboratory)

403 Computer Methods in Numerical Analysis (3)

Prerequisites: Egr 205 and 308 or equivalent. The use of numerical methods and digital computers in the solution of algebraic, transcendental, simultaneous, ordinary and partial differential equations.

405 Digital Computer Design and Organization (3)

Prerequisites: Egr 303 and 402. Digital computer organization; arithmetic operations: addition, subtraction, multiplication, division; control unit: instruction format, types, acquisition, execution; memory unit: organization, types, hierarchies; input-output unit: methods, data organization.

406 Dynamic Response (3)

Prerequisites: Egr 312 and Math 281. Natural and forced motions of linear lumped and distributed parameter systems; matrix and iterative methods in vibration analysis.

406L Dynamic Response Laboratory (1)

Prerequisite: Egr 376A; corequisite: Egr 406. Steady and transient response of dynamic and control systems, linear and nonlinear systems, analog and digital simulation and computation. (3 hours laboratory)

407 Transfer and Rate Processes (3)

Prerequisites: Egr 205, 305 and 308. Analysis of two- and three-dimensional steady and unsteady heat conduction, radiation heat transfer, forced and free convection for interior and exterior surfaces, heat transfer with a change in phase and heat transfer in high-speed flow.

408 Reinforced Concrete Design (3)

Prerequisites: Egr 301 and 326. Theory of reinforced concrete. Design of reinforced concrete slabs, beams, columns, buildings and bridges. Introduction to prestressed concrete, ultimate strength theory.

409 Intermediate Structural Design (3)

Prerequisites: Egr 326 and 408. Analysis of structural systems, such as buildings, bridges. Various considerations leading to the final selection of a structural design scheme. Design philosophy, code interpretation. Design projects.

410 Space Dynamics (3)

Prerequisite: Egr 302. Gravitational field, impulsive transfer and rendezvous between two-body orbits; dynamics of two or more interconnected rigid bodies; spin stability, orientation by gravity-gradient and solar-radiation pressure, damping of spacecraft's rotational motion.

411 Dynamics of Structures (3)

Prerequisites: Egr 301 and 308, or equivalent. Free and forced vibrations of discrete systems, response of structures to impulse loads and earthquakes. Matrix formulation and normal coordinates analysis. Vibration of beams.

412 Theory of Elasticity (3)

Prerequisites: Egr 301 and 308. The differential equations which govern the behavior of an elastic solid, and their applications to a variety of problems in two and three dimensions using various coordinate systems.

413 Electromechanical Energy Conversion (3)

Prerequisites: Egr 309 and 312. Basic principles of electromechanical energy conversion machinery and transducers. Magnetic circuits and transformers. Performance and control of synchronous, induction and direct-current machines.

413L Electromechanical Energy Conversion Laboratory (1)

Corequisite: Egr 413. Experimental study of electromechanical machinery and transducers. (3 hours laboratory)

414 Matrix Analysis of Structures (3)

Prerequisites: Egr 205, 301 and 308 or equivalent. Introduction to matrix algebra; use of matrix formulation in the analysis of structures; flexibility and stiffness methods; use of the matrix method on a digital computer.

415 Gas Dynamics (3)

Prerequisites: Egr 304 and 305. Thermodynamics of compressible fluid flow, normal and oblique shocks, flow through converging-diverging passages, flow in ducts with heating or cooling, interaction of shocks and expansion waves.

416 Feedback Control Systems (3)

Prerequisite: Egr 312. Basic servomechanism characteristics; classification of feedback systems; static error coefficients; application of root-locus and frequency response methods to feedback control systems; introduction to state-space system description; forward path and feedback compensation methods.

416LA Control Systems Laboratory (2)

Corequisite: Egr 416. Experimental study of simulated and actual control system components; determination of transfer characteristics; compensation methods. (1 hour lecture, 3 hours laboratory)

416LB Control Systems Laboratory (2)

Prerequisite: Egr 416 or consent of instructor. Experimental study of mechanical, hydraulic and pneumatic control system components; open loop and closed loop control systems responses. (1 hour lecture, 3 hours laboratory)

417 Engineering Economy (2)

Prerequisite: senior standing in engineering. Development, evaluation and presentation of alternatives for engineering systems and projects using principles of engineering economy and cost benefit analysis. Examination of the relationships between the engineer and other members of the enterprise environment. Examination of the engineer's ethics, value systems and nonquantifiable inputs from the enterprise environment.

418 Foundation Design (3)

Prerequisites: Egr 301, 326 and 408. Design loads for foundation structures. Design of footings, retaining walls, piled foundations, bulkheads, other waterfront structures.

419 Electromagnetic Field Theory (3)

Prerequisite: Egr 311. Continuation of Egr 311 to provide a greater depth and extension of coverage, energy in fields, Maxwell's equations, boundary value problems, propagation, guided waves.

420 Limit Analysis of Structures (3)

Prerequisites: Egr 301 and 427. General theory of elastic-plastic state of materials; concept of yield hinges and yield lines; analysis of continuous beams, frames, plates.

421 Mechanical Design (2)

Prerequisites: Egr 301 and 335; corequisite: Egr 421L. The application of the principles learned in mechanics of rigid and deformable bodies to the proportioning of machine elements to engineering problems.

421L Mechanical Design Laboratory (1)

Corequisite: Egr 421. Analysis, formulation and solution of engineering type problems encountered in mechanical design. (3 hours laboratory)

422 Introduction to Analog Computation (2)

Prerequisites: Egr 302, 303 and 308. Introduction to electronic analog computers, programming, solution of engineering problems using analog computers. (1 hour lecture, 3 hours laboratory)

423 Engineering Probability and Statistics (3)

Prerequisite: Egr 308, or consent of instructor. Engineering problems involving discrete and continuous random variables, probability distribution and density functions, introduction to stochastic processes, correlation functions and power spectral densities.

424 Computer Applications (3)

Prerequisites: Egr 205, 312 and 422. Advanced analog computer methods, optimization techniques, digital differential analyzers, engineering system simulation languages.

425A,B Environmental Engineering (3,3)

Prerequisite: senior standing in engineering or equivalent. Fundamentals of environmental engineering. Planning, analysis and design of systems for water and air pollution control; domestic and industrial waste treatment and disposal.

426 Ocean and Coastal Engineering (3)

Prerequisite: senior standing in engineering or equivalent. Characteristics of ocean basis, marine soils. Fundamentals of ocean waves, currents, tides, tsunamis and storm surges. Effect of waves on structures, floating platforms, offshore towers. Engineering problems of beach erosion, harbor design and coastal problems.

427 Structural Analysis (3)

Prerequisite: Egr 301. The analysis of determinate and indeterminate structures, such as continuous beams, frames, grids, arches, trusses, curved beams, using slope and deflection method, moment distribution method, elastic energy approach. Temperature effect, foundation settlement, secondary stresses. Nonprismatic members.

428 Engineering Hydraulics (3)

Prerequisite: Egr 305. Hydraulic forces, theory and analysis of open channel flow and pipe flow. Critical flow, uniform and non-uniform flow. Design of channels, spillways, gravity pipelines. Hydraulic analogies.

429 Transportation and Traffic Engineering (3)

Prerequisite: senior standing in engineering or equivalent. Introduction to transportation systems. Engineering aspects of air, highways, rails, waterways and other modes of transportation. Planning, design and regulation of highway traffic. Elements of highway and freeway layout. Planning and design of rapid transit systems. Transportation facilities. Application of computers.

430 Design of Steel Structures (3)

Prerequisite: Egr 301. Design of steel structures: design of built-up girders, moment connections, light gage metal members. Torsion and unsymmetrical bending of beams, buckling of beams and columns. Design for wind and earthquake forces. The use of the latest AISC design code.

431 Experimental Stress and Model Analysis (3)

Prerequisites: Egr 301 and 306A or equivalent. Lectures and laboratory in the principal experimental methods of stress and model analysis. Principles of similitude, mechanical and electrical strain gaging, analogy methods, photoelasticity, photostress and Moire methods. (2 hours lecture, 3 hours laboratory)

432 Aerospace Vehicle Structures (3)

Prerequisites: Egr 205 and 301. Stress analysis of vehicle components, combined torsion, bending and shear; stability and strength of thin sheet members, compressive strength of sheet stringer panels, interaction curves.

433 Aerodynamics (3)

Prerequisites: Egr 308 and 333. Theory of lift and drag. Thin airfoil theory, lifting lines and lifting surfaces, supersonic airfoils, similarity laws, slender-body theory.

434 Direct Energy Conversion (3)

Prerequisites: Egr 300, 304 and 305. The direct conversion of heat to electrical energy, thermoelectric, thermionic and magnetohydrodynamic devices, solar and fuel cells.

437 Propulsion (3)

Prerequisites: Egr 305 and 316. Theoretical analysis of flight vehicle propulsion systems. Includes review of pertinent thermodynamic, fluid mechanic, and dynamic fundamentals; air breathing engines (ramjet, turbojet, turboprop); chemical rockets.

440 Flight Vehicle Performance (3)

Prerequisites: Egr 305 and 333. Drag estimation of components of aircraft, aircraft performance, flight testing and performance reduction, introduction to the performance analysis of hovercraft and helicopters.

441 Stability and Control of Flight Vehicles (3)

Prerequisites: Egr 308 and 333. The equations of motion of a rigid flight vehicle, flight path and orientation equations, small disturbance theory, static and dynamic stability, transient response and frequency response.

443 Electronic Communication Systems (3)

Prerequisite: Egr 310. Principles of amplitude, angular and pulse modulation, study of representative communication systems, consideration of the effects of noise on system performance.

443L Electronic Communication Systems Laboratory (1)

Prerequisite: Egr 310L; corequisite: Egr 443. Experimental study of detection, modulation and signal generation; VHF and UHF component and system studies. (3 hours laboratory)

445 Pulse and Digital Circuits (3)

Prerequisite: Egr 310. Analysis and design of active and passive circuits for the generation and processing of pulse, digital and switching waveforms.

445L Pulse and Digital Circuits Laboratory (2)

Prerequisite: Egr 445 (may be taken concurrently). Laboratory study of logic circuits, switching circuits, gates, timing circuits and special waveform generating circuits. (1 hour lecture, 3 hours laboratory)

455A,B Solid-State Electronics (3,3)

Prerequisites: Egr 303 and 311. Quantum mechanical principle, atomic structure, quantum statistics, crystal structure, energy level in solids, band theory, transport phenomena, conductivity and super conductivity, theory of intrinsic and extrinsic semiconductors, generation and recombination processes. Dielectric theory and materials, magnetization density, diamagnetism, paramagnetism, ferromagnetism, antiferromagnetism. Ferrimagnetism theory and materials. Para and ferromagnetic resonance. Illustrative applications to devices.

458 Programming Languages (3)

Prerequisites: Egr 205 and 403. Basic method of non-numeric programming: machine languages, arrays, lists, stacks, trees, searching, sorting, recursion, assemblers, supervisors, loaders, and macros. Structures of program oriented language: Fortran, Algol and PL/1.

460 Failure of Engineering Materials (3)

Prerequisite: Egr 202. The study of initiation and propagation of cracks, stress concentration, dislocation, fatigue, creep, stress corrosion, cracking, hydrogen embrittlement and fracture testing.

461 Theory of Dislocations (3)

Prerequisites: Egr 202 and 308 or senior standing in physics or chemistry. Nature of dislocations and their influence in plastic deformation and fracture of materials, straight dislocations, curved dislocations, interaction of dislocations.

462L Engineering Metallurgy Laboratory (1)

Corequisite: Egr 320. Study of microstructure of materials, cold work and heat treatment, use of microscope and sample preparation, fatigue testing and failure analysis. (3 hours laboratory)

473 Introduction to Nuclear Engineering (3)

Prerequisite: senior or graduate standing in engineering. A review of atomic physics and nuclear fission followed by elementary reactor theory and reactor design considerations.

475 Engineering Acoustics (3)

Prerequisite: Egr 308. Mathematical analysis of the transmission and absorption of acoustic waves; sound generation and detection devices; applications in loud-speaker design; architectural and underwater acoustics.

491 Analytical Methods in Engineering (3)

Prerequisite: Egr 308 or consent of instructor. Differential equations with constant and variable coefficients; orthogonal functions; conformal mapping; potential theory; tensor analysis; engineering applications.

497 Senior Projects (1-3)

Prerequisite: consent of adviser and instructor. Directed independent design project.

499 Independent Study (1-3)

Prerequisite: approval of study plan by adviser. Study of specialized topics in engineering selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

501A,B Microwaves (3,3)

Prerequisites: Egr 309, 403 and 419. Review of concepts underlying Maxwell's equations, propagation through passive, active, linear, nonlinear, isotropic, anisotropic, homogeneous and inhomogeneous media with and without wave guiding structures. Orthogonal modes in waveguide and cavity resonators, microwave circuit theory, microwave devices. Generation and transmission of microwave energy.

503 Information Theory and Coding (3)

Prerequisite: Egr 423. Information measures, probabilistic studies of the transmission and encoding of information, Shannon's fundamental theorems, coding for noisy channels.

504 Linear Network Synthesis (3)

Prerequisites: Egr 309 and 312. Generalized analysis methods of passive networks, modern synthesis procedures for realizing driving-point and transfer-functions of approximation methods in filter design.

505 Nonlinear Control Systems (3)

Prerequisite: Egr 416. Analysis of nonlinear control systems using linearization and perturbation techniques; describing function and phase plane techniques; Lyapunov's stability criterion.

506 Advanced Digital Computer Systems (3)

Prerequisite: Egr 405. High speed arithmetic design, fault tolerance and fault defection, time-sharing, real-time and multi-processor computer systems.

507 Statistical Communication Theory (3)

Prerequisites: Egr 423 and 443. Transmission of random signals through linear systems, noise considerations, detection theory, optimum receivers.

508 Intermediate Fluid Mechanics (3)

Prerequisites: Egr 308 and 333. An investigation of potential flow theory including the study of complex potentials, the Joukowski transformation, sources and sinks, and the theorem of Schwarz and Christoffel.

509 Theory of Plates and Shells (3)

Prerequisites: Egr 301 and 491 or equivalent. Theory of plates bent by transverse loads; applications to circular, rectangular, other shapes. General theory of thin shells; shells of revolution; shells of translation.

510 Numerical and Approximate Methods in Structural Mechanics (3)

Prerequisites: Egr 205, 308 and 414 or equivalent. Use of finite-difference and finite-element methods for solution of problems in structural engineering. Coding on a digital computer and numerical solutions using direct and iterative techniques.

511 Advanced Dynamics (3)

Prerequisite: Egr 312. The dynamics of particles and rigid bodies by the use of the formulations of the laws of mechanics due to Newton, Euler, Lagrange and Hamilton; applications.

512 Gyrodynamics (3)

Prerequisite: Egr 312. Frames of reference, Eulerian angles, spinning disks and rotors, gravity effects, gyroscopes, control of forced and free vibrations.

513 Optimal Control Systems (3)

Prerequisites: Egr 416 and 581. Formulation of optimal control problems; the calculus of variations; the maximum principle; studies of minimum-time and minimum-energy problems; dynamic programming.

514A,B Software Systems Design (3,3)

Prerequisites: Egr 402 and 458 or equivalent. A brief review of programming languages (syntax and semantics); organization of system components for assembly, compilation and interpretation; organization and design of operating systems for batch processing, multiprocessing, and time sharing; memory allocation in a dynamic environment.

515A,B Quantum Electronics (3,3)

Prerequisites: Egr 403 and 419. Electroluminescence, interaction of radiation and matter, gas lasers, solid state laser, injection lasers, holography, electro-optic effects, non-linear optics, laser systems, noise and applications.

516 Advanced Principles of Heat Transfer (3)

Prerequisite: Egr 407. A study of advanced principles in convective and radiation heat transfer. Exact and approximate solutions of thermal boundary layer problems. A study of energy transfer in absorbing and emitting media.

517 Theory of Inelasticity (3)

Prerequisites: Egr 412 and 491 or equivalent. General equations of inelastic continua; theory of plasticity; three dimensional yield conditions and flow laws; theory of linear viscoelasticity; applications.

518 Advanced Fluid Mechanics (3)

Prerequisite: Egr 508. A study of the foundations of stability theory and the general properties of the Orr-Sommerfeld equation, investigation of turbulent boundary layers, turbulent flow through pipes and free turbulent flows (jet and wakes).

519 Advanced Structural Mechanics (3)

Prerequisites: Egr 301, 427 and 491 or equivalent. Use of potential energy principle in structural analysis; direct and indirect method of calculus of variations; nonlinear problems of large deformation; beam on elastic foundations; special topics in structural mechanics.

520 Incompressible Boundary Layer Theory (3)

Prerequisites: Egr 333 and 407. A study of the fundamental equation of motion and continuity applied to viscous fluids (Navier-Stokes equations). The development of the boundary layer equations and the study of viscous drag, investigation of boundary layer control theory to reduce viscous drag.

521A,B Antenna Theory (3,3)

Prerequisites: Egr 309, 403 and 419. Polarization; radiation patterns; impedance characteristics; plane, cylindrical and spherical waves, electric and magnetic dipoles; wire antennas, traveling wave antennas; broad band antennas; analysis and synthesis of arrays; parabolas; lenses; radomes; feed systems; scattering; multiple beam antennas; synthetic antennas; phased arrays; diffraction; solution by superposition, orthogonal expansion, integral equation and variational techniques; antenna measurements.

522 Theory of Hydrodynamic Lubrication (3)

Prerequisites: Egr 333 and 407. The analysis and design of compressible and incompressible journal and thrust bearings.

523 Solid State Devices and Integrated Circuits (3)

Prerequisite: Egr 455A. Diodes, bipolar transistors, junction and insulated-gate field effect transistors. Integrated circuit design principles. Bipolar and MOS integrated circuits, monolithic and hybrid integrated circuits.

524 Advanced Thermodynamics (3)

Prerequisite: Egr 316. Equilibrium and stability criteria, chemical thermodynamics, multiple reaction systems, ionization, equilibrium composition.

525 Compressible Boundary Layer Theory (3)

Prerequisite: Egr 520. The study of compressible viscous flow analysis. The twodimensional and axi-symmetric compressible steady boundary layer equations, momentum integral and transformation techniques of solution.

530 Advanced Strength of Materials (3)

Prerequisites: Egr 301 and 308. Energy methods, principle of virtual work, applications to structures, cylinders, shrink fits, curved beams, elastic and inelastic buckling of columns.

545 Advanced Structural Design (3)

Prerequisites: Egr 408 and 491 or equivalent. Analysis and design of thin shell structures; folded plates structures; suspended cable structures.

547 Advanced Dynamics of Structures (3)

Prerequisites: Egr 411 and 491 or equivalent. Vibration of beams, plates and shells. Dynamic response of continuous systems in general. Introduction to random vibrations. Topics in nonlinear vibrations.

549 Theory of Elastic Stability (3)

Prerequisites: Egr 301, 530 and 491 or equivalent. Critical loads of columns, beam columns, plates, shells; lateral stability of beams, torsional buckling of open sections, stability of the frames; dynamic stability of elastic systems.

553A,B Plasma Dynamics (3,3)

Prerequisites: Egr 403 and 419. Orbit theory, collision theory, transport properties, equilibrium, oscillations, fluctuations, thermionic energy conversion, plasma containment, instabilities, fusion power, plasma propulsion, hypersonics, plasma sheaths and wakes, scattering from plasmas, wave propagation through plasmas, energy conversion.

554 Hybrid Computation (3)

Prerequisites: Egr 403 and 424. Hybrid analog-digital computer systems, A/D and D/A converters and other linkage equipment, application of hybrid computers to solving partial differential equations and modeling, error analysis.

555 Electromagnetic Field Theory (3)

Prerequisite: Egr 419. Relativistic electrodynamics, retarded potentials, radiation from arbitrarily moving charges, Cerenkov radiation, cyclotron radiation, propagation in dispersive media, space charge dynamics, advanced boundary value problems.

556 Radar Systems (3)

Prerequisites: Egr 423 and 443. The theory of radar measurements, modulation methods, detection of signals in noise, extraction of information from radar signals, radar systems engineering.

557 Sampled-Data Systems (3)

Prerequisite: Egr 416. Analysis and design of sampled-data and digital control systems, using Z-transforms and state-variable methods; consideration of stability.

559 Active Network Synthesis (3)

Prerequisite: Egr 504. Active devices as network elements, analysis of active networks with controlled sources, scattering parameters, sensitivity, realizability conditions.

569 Orbital Mechanics (3)

Prerequisite: Egr 410. Potential field, the n body problem; determination of orbits, perturbation and numerical methods; orbits of near earth satellite and interplanetary probes.

570 Seminar in Electrical Engineering (1-3)

Prerequisites: graduate standing and 12 units of graduate coursework. Special topics and current developments of primary interest in the field of electrical engineering. This course, with different content, may be retaken for additional credit.

573 Aerospace Guidance Systems (3)

Prerequisites: Egr 410 and 423. Guidance equations for powered and impulsive orbit injection and mid-course correction; analysis of navigation fix; estimation from measurements and error analysis; recursive navigation theory.

575 Kinetic Theory and Statistical Thermodynamics (3)

Prerequisite: Egr 316. Statistical study of ideal gases, kinetic theory, statistical mechanics, electron gas, thermionic emission, photon and phonon gases.

577 Reliability Analysis of Structures (3)

Prerequisites: Egr 423 and 427. Application of statistics and theory of probability to the problems of safety of structures.

581 Linear Systems Engineering (3)

Prerequisites: Egr 312 and graduate standing. Classification of systems, principles of time domain analysis, matrices, linear spaces, analog simulation, state space, matrix representation of state equations, systems with random signals, stability of systems.

582 Estimation Theory in Systems Engineering (3)

Prerequisites: Egr 423 and 581. Linear estimation theory, Gauss-Markoff, least squares, Kalman, maximum likelihood; Kalman estimation for discrete dynamic systems, smoothing, filtering, and prediction, Kalman estimation for continuous dynamic systems.

585 Optimization Techniques in Systems Engineering (3)

Prerequisite: Egr 403. Optimization of functions of several variables, Lagrange multipliers, gradient techniques, linear programming, and the simplex method, non-linear and dynamic programming.

587 Operational Analysis Techniques in Systems Engineering (3)

Prerequisites: Egr 423 and 585. Operational research models; applications of probability theory to reliability, quality control, waiting line theory, Markov chains; Monte Carlo methods.

592 Advanced Engineering Analysis (3)

Prerequisites: Egr 403 and 491 or equivalent. Partial differential equations in engineering; calculus of variations; numerical techniques; integral equations; engineering applications.

596A,B,C,D Special Topics in Engineering (1-3)

Prerequisite: corresponding general courses in same subject area. Selected topics in specialized areas of engineering covering recent developments.

597 Graduate Projects (1-6)

Prerequisite: consent of adviser.

598 Thesis (1-6)

Prerequisite: consent of adviser.

599 Independent Graduate Research (1–3)

Prerequisite: classified graduate status. Open to graduate students only by consent of Engineering School Graduate Committee. May be repeated for credit only upon approval of this committee.

701A,B Review of Applied Mathematics for Engineers (3,3)

Review of elementary calculus, ordinary differential equations, Laplace transforms, vector analysis, Fourier series, matrices, and partial differential equations.





ETHNIC STUDIES

ETHNIC STUDIES PROGRAMS

DEPARTMENT OF AFRO-ETHNIC STUDIES

FACULTY

Michael A. Finnie Department Chairman

Wacira Gethaiga, Sonia Tilden

BACHELOR OF ARTS IN ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. These are: extending opportunities for college education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; providing for personal consultation between faculty and students of diverse cultural backgrounds; revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations; and conducting continuous research in innovative teaching methods and courses to create more effective means of teaching students in culturally pluralistic environment.

Afro-American Studies Option

The required minimum for the major is 36 units: Ethnic Studies 107, and 102 or 103 and nine additional units from lower division offerings and a minimum of

24 units in upper division courses.

The purposes of the Afro-American studies option are: to provide a specialization in Afro-American studies within the framework of a more generalized and comprehensive, ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this option; to acquaint students with the problems, successes and failures of America's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the black experience in America in a world setting; and to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society.

Requir	red:	Units
107 *102 *103	Introduction to Afro-American Studies Communication Skills Communication Skills	_ 3 _ 3 _ 3
Lower	Division Electives: (9 units required)	9
105 230 240	Introduction to Ethnic Studies (3) Introduction to Swahili (4) Introduction to Swahili (4) Introduction to Swahili (4) The American Indian (3) Afro-American History (3) Cultural Scars of Oppression (3)	
260	Cultural Identity and the Contemporary Mexican and Black Man (3) The Amer-Asian (3)	
× C+	to any he assumed from Ethnia Studios 102 and/or 102 he an avanination	and/or

^{*} Students can be exempted from Ethnic Studies 102 and/or 103 by an examination and/or the consent of the department.

Upper Division Electives: (24 units required)....

301 Afro-American Culture (3)

303 Ancient and Modern African Culture (3)

309 The Black Family (3)

314 Pan-African Dance and Movement (3)

315 Pan-African Art (3)

345 Europe, Africa and America in Modern Western Civilization

346 The African Experience (3)

401 Black American and Contemporary Issues (3)

402 Africa and Self Determination (3)

410 Afro-American Literature (3) 460 Afro-American Music (3)

496 Selected Topics (3)

499 Independent Study (1-3)

AFRO-ETHNIC STUDIES COURSES

101 Introduction to Ethnic Studies (3)

A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live and world society in general.

102 Communication Skills (3)

A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation and correct English patterns of thought.

103 Communication Skills (3)

Prerequisite: Ethnic Studies 102 or consent of the department. A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation, and correct English patterns of thought.

107 Introduction to Afro-American Studies (3)

Introduction to the aims and objectives of the Afro-American Studies program. It will define and explore the basic terms and references that give substance to Afro-American Studies. It will provide uniform purpose and direction for students who seek an education in Afro-American Studies.

230 The American Indian (3)

A study of the American Indian experience in the United States as seen from the Indian's point of view in comparison with that of the white man. Special attention will be focussed on the problems of American Indians today.

240 Afro-American History (3)

A survey of the social, political, and economic history of black people in the United States from slavery to the present.

250 Cultural Scars of Oppression (3)

An examination of the process of socialization of the black and brown man in America and its imprints upon his psyche.

260 Cultural Identity and the Contemporary Mexican and Black Man (3)

An examination and study of the "identity crisis" or lack of it in young Mexican and black individuals in the United States. An in depth analysis of the changing points of view of the Mexican toward acculturation.

270 The Amer-Asian (3)

A survey of the Asian-American experience beginning from the early 19th century. Also analysis of the discriminatory legislation as reflected in immigration quotas; investigation of the fallacies surrounding the Asian-American experience and study of present day attitudes in the Asian community.

301 Afro-American Culture (3)

A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

303 Ancient and Modern African Culture (3)

Prerequisite: limited to advanced sophomores and upper division students. This course will attempt a survey of the African cultures (specifically West African contrasted with East African) before the period of exploration and after colonization. A look at the present-day American black culture will try to estimate the carry-over of cultures.

309 The Black Family (3)

A study of the American social conditions that shaped the black family from the African cultural patterns that were destroyed during slavery to the family that exists today. Special attention will be given to the roles of poverty, racism and discrimination.

314 Pan-African Dance and Movement (3)

Theory and practice of movement of African and Haitian peoples. Also an investigation of how movement (dance) acts as quasi-language in perpetuating the life style of African cultures and cultures of African descent.

315 Pan-African Art (3)

A study of African and Afro-American art, from prehistoric to contemporary times, including African influences in other art forms and a stylistic analysis of drawings, sculpture, and paintings.

345 Europe, Africa and America in Modern Western Civilization (3)

A historical examination of the interrelationships and interactions of European, African and American cultures. Particular emphasis will be placed upon the mutual effects of slavery, colonization and self-determination upon various cultures.

346 The African Experience (3)

A survey of major themes of African history from the origin of the black man and traditional African civilization through the African diaspora to the institutional realities of Africa today.

401 Black American and Contemporary Issues (3)

Analysis and discussion of the socioeconomic and political problems confronting black Americans, with an emphasis on problem solving. Particular focus will be placed on the effects American social attitudes and institutions have had on the black community. Study and research will be made in these areas.

402 Africa and Self-Determination (3)

Prerequisite: Ethnic Studies 303. A look into the national characters of African nations as to how they shed labels like "tribes" and united to demand the independence they had lost.

410 Afro-American Literature (3) (Formerly 231)

A study of the literary endeavors of Afro-Americans and their cultural impact, especially in relationship to the social and psychological evolution of the Afro-American.

460 Afro-American Music Appreciation (3)

A survey of black music in America; the sociological conditions that help produce various forms of black music; influential black musicians and composers, and analysis of the cultural impact of black music in America.

495 Selected Topics (3)

Prerequisite: at least junior status or consent of the instructor. Special seminar in selected topics in Afro-American studies.

499 Independent Study (1-3)

Prerequisites: senior level or acceptance of the subject by the department chairman and the professor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the department, of a subject of special interest to the student.

DEPARTMENT OF CHICANO STUDIES

FACULTY

Robert Serros

Department Chairman

Dagoberto Fuentes, Ricardo Organista, Anthony Vega

BACHELOR OF ARTS IN ETHNIC STUDIES

This degree program is designed to provide an effective vehicle for meeting a variety of needs in contemporary higher education. These are: extending opportunities for college education to students who have long been under-represented due to cultural differences between their experiences and the cultural emphasis of higher education; providing for personal consultation between faculty and students of diverse cultural backgrounds; revising curriculum and promoting research to give all students and faculty an understanding of the interaction of ethnic groups in past and contemporary civilizations; and conducting continuous research in innovative teaching methods and courses to create more effective means of teaching students in culturally pluralistic environment.

MEXICAN-AMERICAN STUDIES OPTION

The required minimum for the major is 36 units: Ethnic Studies 106, 102 * or 103 * and 120 * and 12 additional units from the lower division offerings and a

minimum of 24 units in upper division courses.

The purposes of the Mexican-American studies option are: to provide a specialization in Mexican-American studies within the framework of a more generalized and comprehensive, ethnic studies perspective; to provide greater flexibility and more electives within the ethnic studies program to meet the variety of needs and interests of the diverse group of students selecting this major; to acquaint students with the problems, successes and failures of Orange County's largest minority group; to help students understand the nature of contemporary ethnic and social turmoil and guide them into constructive modes of thought about current issues; to enable students to see the brown experience in America in a world setting; to enable students to lead more effective lives in a culturally pluralistic and rapidly changing society; and to prepare students to work more effectively in Spanish-speaking areas.

Requi	red:	Unit
106	Introduction to Chicano Studies	_ 3
*102	Communication Skills	_ 3
*103	Communication Skills	_ 3
*120	Bilingual Oral Expression	3
Core (Courses: (9 units required)	_ 9
213	Spanish for the Spanish Speaking (3)	
214	Spanish for the Spanish Speaking (3)	
220	Mexican Heritage (3)	
232	Chicano Music Appreciation (3)	
250	Cultural Scars of Oppression (3)	
260	Cultural Identity and the Contemporary Mexican and Black Man (3)	
Lower	Division Electives:	_ 3
101	Introduction to Ethnic Studies (3)	
237	Mexican and Mexican-American Literature in Translation (3)	

^{*} Students can be exempted from Ethnic Studies 102 and/or 103 and 120 by an examination and/or the consent of the department.

Units

		Electives:	(a	minimum	of	25	upper	division	units	from	the	A
following courses)							25					

- 302 Ancient Mexican Culture (3)
- 305 The Chicano Family (3)
- 306 Barrio Studies (3)
- 307 Barrio Studies (3)
- 320 Chicano Art (3)
- 336 Main Trends in Spanish-American Literature (3)
- 337 Contemporary Chicano Literature (3)
- 340 Sociology of the Chicano (3)
- 420 Spanish for the Elementary School Teacher in the Barrio (3)
- 430 Canción de la Raza (3)
- 433 Mexican Literature since 1940 (3)
- 440 Mexican Intellectual Thought (3)
- 441 Religion in the Mexican-American Society (3)
- 450 The Mexican-American and Contemporary Issues (3)
- 453 Mexico since 1910 (3)
- 499 Independent Study (1-3)

CHICANO STUDIES COURSES

101 Introduction to Ethnic Studies (3)

A survey of the basic concepts and problems involved in an examination of the perspective through which black and brown people have come to see themselves in terms of their own heroes, culture and contributions to societies in which they live and world society in general.

102 Communication Skills (3)

A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation and correct English patterns of thought.

103 Communciation Skills (3)

Prerequisite: Ethnic Studies 102 or consent of the department. A methodical presentation of the basic communication skills emphasizing writing and communication skills stressing the use of idioms, proper pronunciation, intonation, and correct English patterns of thought.

106 Introduction to Chicano Studies (3)

A study of the role of the Chicano in the United States. Special emphasis will be placed on the Chicano's cultural values, social organization, urbanization patterns, and the problems in the area of education, politics, and legislation.

120 Bilingual Oral Expression (3)

Prerequisites: none, but it is recommended that Ethnic Studies 102 and/or 103 be taken prior to taking this course. A course designed to train the bilingual Chicano in the process of oral expression in English and Barrio Spańish. Pertinent topics will be selected in the areas of education, law enforcement, and contemporary issues for bilingual oral expression.

Chicano Studies

213 Spanish for the Spanish-Speaking (3)

A methodical presentation of the Spanish language as it is spoken in the United States today. The first part of the course is designed to improve the basic communication skills of Spanish to students who are from Spanish speaking backgrounds; emphasis will be placed on vocabulary building, syntactical analysis and conversation. Designed for Mexican-American students but not restricted to them.

214 Spanish for the Spanish-Speaking (3)

Prerequisite: Ethnic Studies 213. A course designed to further enhance the communication skills of Spanish of the Spanish-speaking student. The second part will emphasize written expression. Designed for Mexican-American students but not restricted to them.

220 Mexican Heritage (3)

Introduction to the basic characteristics of the Mexican and especially the Mexican-American society and culture and its ramifications in the United States today. The survey course covers the period of 1519 to the present day. A special emphasis is placed on the arts, literature and history of Mexico and the Mexican-American in the United States.

232 Chicano Music Appreciation (3)

A survey of the Mexican music ranging from the pre-Cortesian period to present musical renditions in Mexico and in the southwestern states of the United States. The history and music are presented by lectures and recordings.

237 Mexican and Mexican-American Literature in Translation (3)

A survey course in Mexican and Mexican-American literature in English. Special emphasis will be given to presenting the point of view of the Mexican-American. Panel discussions will emphasize the exposure of our students to the ideas of the Mexican and Mexican-American literature as seen by the artistic eyes of the Mexican-American.

250 Cultural Scars of Oppression (3)

An examination of the process of socialization of the black and brown man in America and its imprints upon his psyche.

260 Cultural Identity and the Contemporary Mexican and Black Man (3)

An examination and study of the "identity crisis" or lack of it in young Mexican and black individuals in the United States. An in depth analysis of the changing points of view of the Mexican toward acculturation.

302 Ancient Mexican Culture (3)

A historical and cultural survey of the principal pre-Columbian cultures of Mexico and their significance for Mexican society.

305 The Chicano Family (3)

The Chicano family development as an American social institution. Historical and cross-cultural perspectives. The socio and psycho dynamics of the Chicano family.

306 Barrio Studies (3)

Prerequisites: Ethnic Studies 101 and/or 220 or consent of instructor. Students are given classroom instruction covering the major characteristics of the barrio and are then supervised in their fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

307 Barrio Studies (3)

Prerequisite: Ethnic Studies 306. Students are given classroom instruction covering the major characteristics of the barrio and are then supervised in their fieldwork in the local barrios. An analysis of the barrio or agency will be made after fieldwork is completed. (2 hours lecture, 3 hours fieldwork)

320 Chicano Art (3)

A brief overview of Mexican art forms from pre-Cortesian epochs to the contemporary artists, with emphasis upon the use of oil painting techniques as employed by modern Mexican and Chicano artists.

336 Main Trends in Spanish American Literature (3)

An introduction to the main currents of Spanish American literature emphasizing contemporary works. Close attention will be given to the relation between the artistic expression and the ideological values of the same period.

337 Contemporary Chicano Literature (3)

Prerequisite: any of the following: Ethnic Studies 101, 106, 220, 250, 260, 237 or 232 or the permission of the instructor. A study of the modern Chicano writers in the United States. Special emphasis will be given to Allurista, Corky Gonzales, Octavio Romano, El teatro campesino and the major Chicano magazines and newspapers.

340 Sociology of the Chicano (3)

Prerequisites: Ethnic Studies 101 or 106, and any one of the following: Ethnic Studies 220, 250, or 260, or the instructor's approval. A general survey of the field. Sociological perspectives of Mexican-American culture and social structure including background, present nature, and changing patterns.

420 Spanish for the Elementary School Teacher in the Barrio (3)

Designed to improve the oral expression of teachers in the barrio elementary schools. Special emphasis will be given to the language patterns of the Mexican-American students and their parents.

430 Canción de la Raza (3)

Prerequisite: reading knowledge of Spanish. Survey and analysis of the Nahuatl, Mexican and Mexican-American literature from the pre-Columbian period to the present. The latter part of the course will focus on contemporary Mexican-American writers.

433 Mexican Literature since 1940 (3)

Prerequisite: reading knowledge of Spanish. An in-depth study and analysis of the literature of Mexico since 1940. Emphasis will be placed on the works of Carlos Fuentes, Luis Spota, Rodolfo Usigli, Xavier Villaurrutia, Juan Jose Arreola, Octavio Paz, Roberto Blanco Moheno and Luis G. Basurto.

440 Mexican Intellectual Thought (3)

Recommended that students have a reading knowledge of Spanish and that they take Ethnic Studies 237, and 302. A study and discussion of the emergence of the Mexican-American movement dealing with political, economical, and sociological facets. This course analyzes the writings of the Nahuatl, Spanish, Spanish-American and Mexican-American writers. Special attention will be focused on the contemporary writers.

441 Religion in the Mexican-American Society (3)

Prerequisites: Ethnic Studies 220, and/or 250 or 260, or consent of instructor. A comparative study of American Protestant and Mexican Catholic thought and their influence on the values held by Anglo and Mexican-Americans. Special emphasis will be placed on the contemporary issues.

Chicano Studies

450 The Mexican-American and Contemporary Issues (3)

Analysis and discussion of the socioeconomic and political problems confronting the Mexican-American, with emphasis on the proposed solution. Particular focus will be placed on the effects the social institutions have had on the Mexican-American community. Study and research will be made in these areas.

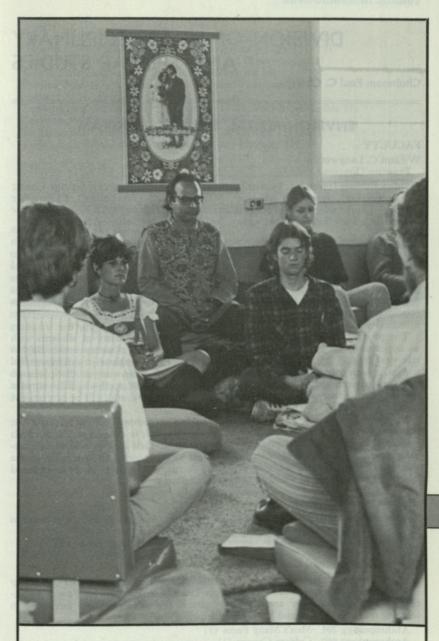
453 Mexico Since 1910 (3)

Prerequisite: upper division class standing. A study of the Mexican Revolution of 1910 stressing the political economic and social features of this period. Special emphasis will be given to the Revolution and its contributions in the fields of art, music, literature and social reforms.

499 Independent Study (1-3)

Prerequisites: senior level or acceptance of the subject by the department chairman and the professor(s) in charge of directing the study. An opportunity to do independent study under the guidance of the department, of a subject of special interest to the student.





INTERDISCIPLINARY AND SPECIAL STUDIES

DIVISION OF INTERDISCIPLINARY AND SPECIAL STUDIES

Chairman: Paul C. Obler

ENVIRONMENTAL STUDIES PROGRAM

FACULTY

William C. Langworthy Program Director

Gordon Bakken (History), Bayard Brattstrom (Biological Science), George Chiang (Engineering), James Do (student), Margaret Fitch (Psychology), Christopher Hulse (Anthropology), William Ketteringham (Geography), Robert Laidlaw (student), Imre Sutton (Geography), Joel Weintraub (Biological Science).

Environmental studies is an interdisciplinary program of courses dealing with man and his environment. The courses, both pre-existing in various departments and specially developed, attempt to integrate knowledge and methods from several disciplines, all of which independently study special aspects of this area. The program will deal with man in his social and cultural aspect, as he exploits, modifies and attempts to achieve balance with his environment. The student will have the opportunity to cope with problems involving ecological changes, pollution, technological solutions, economics, balance land use, and politics.

The program is intended to provide the widest possible variety of students with an opportunity to become acquainted with and acquire a common vocabulary in this vital area. A basic element will be an introductory seminar in environmental studies, which will bring together students and staff from various disciplines to delineate environmental problems and explore fundamental methods. This seminar may be taken either on the undergraduate or graduate level and will be prerequisite

to all further work in the projected graduate program.

No degree objective in environmental studies is planned for undergraduates; however, participation by such students in the program is encouraged. Individuals interested in environmental problems, irrespective of their majors, and those planning to enter job-related areas should consider supplementing their regular course schedules with elements of this program. A master's degree in environmental studies has been proposed and is under development.

Courses in Environmental Studies

Environmental Studies 431 Ecology of the Santa Ana Mountains (also listed as Interdisciplinary Center 431) (3)

Environmental Studies 440A,B Introduction to Environmental Studies (3-3)

Related Departmental Courses

Listed below are a number of departmental courses which either bring up environmental issues or deal with concepts bearing on such issues. Few have extensive prerequisites; they are therefore suitable for undergraduates interested in learning more about man and his environment.

Anthropology 204 Man's Many Faces (3)
Anthropology 460 Culture Change (3)
Biological Science 102 Crisis Biology (3)
Biological Science 267 Man and Insects (3)
Biological Science 316 Principles of Ecology (4)
Engineering 425A,B Environmental Engineering (3,3)

Geography 150 Environment in Crisis (3)

Geography 350 Conservation of the American Environment (3)

Geography 453 Cultural Ecology (Also Anthropology 453) (3)

Nature Interpretation 350 Field Biology and Conservation (3)

Nature Interpretation 460 Applied Conservation (4)

Physical Science 100 Man and His Physical Environment (4)

Sociology 361 Population Problems (3)

Technological Studies 100 Introduction to Technological Studies (3)

Technological Studies 110 A,B Man-Made World (3,3)
Technological Studies 201 Society and Technology (3)
Technological Studies 464 Technology and Ideology (3)

ENVIRONMENTAL STUDIES COURSES

431 Ecology of the Santa Ana Mountains (3)

An interdisciplinary course composed of seminars, field investigation, and laboratory compilation of environmental factors of a wild region within the urbanizing areas of Southern California. Instructed and supervised by specialists in earth science, geography, and biological science. Intensive field investigation of factors of significance in the location and distribution of plants and animals, utilizing techniques of aerial photography, remote sensing, geologic and vegetation mapping, instrumentation of environmental factors and taxonomy. Open to advanced undergraduate and graduate students.

440A,B Introduction to Environmental Studies (3,3)

Prerequisites: advanced standing in an academic major and permission of the director. 440A is prerequisite to 440B. Principles, fundamentals, and current problems involving man and his physical, biological, and man-made environment. Seminars and field trips (weekend trips may be required).

INTERDISCIPLINARY CENTER PROGRAM

FACULTY Paul Obler Director

William Lyon

The Interdisciplinary Center was created out of the conviction that much of the real excitement happening in the intellectual world today (and probably other times as well) is at the boundary lines where traditional disciplines converge. The concrete reality of the human situation raises problems amenable to no facile descriptions or easy solutions—certainly none that any one discipline can yield. We are coming more and more to recognize the need for diverse perspectives—that whether we are confronting the immense complexity of the modern city or the subtle dimensions of love or anxiety, no single frame of reference or specialized knowledge can be sufficient.

Many of the courses now offered or planned by the center lie outside the province of any single department or academic discipline. They challenge students and professors alike to utilize their specialized knowledges and yet to go beyond them. A subject like love may be approached from historical, psychological, aesthetic or philosophical perspectives. Several courses (Psychology and Literary Criticism, Social Sciences and Humanities: A Critical Analysis) utilize the complementary methodologies of the physical sciences, social sciences, or humanities. It follows that interdisciplinary courses frequently involve two or more professors and feature guests from outside the academic community. Many courses are of a frankly experimental nature, often one-time journeys into strange seas, perhaps ill-fated. Many can be used as credits toward upper-level general education or are cross-listed with several majors. The center is interested in new courses or innovative programs; it originally sponsored the Religious Studies Program; it shortly hopes to introduce a B.A. in Human Interaction. It welcomes suggestions from students or all other members of the academic community.

INTERDISCIPLINARY CENTER COURSES

301 Psychological Approaches to Literature (3)

A development of the work of I. A. Richards begun in his *Practical Criticism*. The course's primary focus is on the psychological experimentation relevant to understanding errors of interpretation, particularly interpretation of literary texts. Several experimental approaches to understanding errors in interpretation will be described and illustrated, including those of Piaget (errors of the child), Asch (structural factors of personality), and Adorno. Current therapeutic techniques for the development of attitude change will be discussed.

303 Yoga (3)

A study of Yoga: its theories, literature, and practices; some methods of meditation taught; its relevance for today's world.

310 Seminar in Human Sexuality (3)

The concept of sexuality will be explored as it relates to man, including data regarding sexual practices, their biological and social implications, and their relationship to population and the survival of the species.

315 Jazz: Past, Present and Future (3)

Jazz—its primitive and European roots; cross-cultural description of improvisation. Lectures, demonstrations, some concerts.

318 Character and Conflict: The Struggle for Autonomy (3)

An exploration—via lectures, discussion and group encounter—into the problems and techniques of resolving the conflicts created by the individual's struggle to achieve and maintain personal autonomy while living successfully in an automated world. Topics for exploration include the changing concepts of masculinity and femininity, love, marriage, sexual morality, encountering others.

351 Poverty in America (3)

A study of the extent, causes, consequences and possible cures of poverty in modern America. Poverty will be treated as, among other things, a political issue, and spokesmen from various political groups will lecture on their organization's approach to the poverty question. Lectures, discussion, some documentary films.

402 Art, Literature and the Development of Consciousness (3)

An application of theories of consciousness, particularly existential and Jungian, to poems, paintings and musical compositions. Intensive encounters between the individual and the art work; opportunities at checking one's own responses against those of others and exploring the significance of the differences. (Same as Comparative Literature 402)

403 The Quest for Self: East and West (3)

A comparative study of quest narratives which exemplify the Eastern and Western man's search for self-identity and fulfillment. Religious, psychological and literary texts will be used to help illuminate the comparison. (Same as Comparative Literature 403 and Anthropology 416)

404 The Nature of Love: Plato to Joyce (3)

An examination of the various dimensions of love as found in notable philosophical, psychological, and literary works. (Same as Comparative Literature 404)

405 Psychoanalysis and Drama (3)

A detailed study of Freud's topographic and structural theories and their recent elaborations; the application of theory to selected readings in dramatic literature mainly, but also to some fiction, poetry, and films. (Same as Comparative Literature 405)

410 Self-Actualization Group: Experiences in Human Growth (3)

Prerequisite: consent of instructor. Intensive small group experiences will assist each individual in unleashing his own growth potential and accelerating his own developmental processes. Self-actualization and related existential and humanistic concepts will be explored in depth, using recently developed methods. Lectures, individual assignments supplement the class experience.

411 Group Process and Leadership (3)

The impact of the individual personality on other persons in a group and what takes place in a group of people; the structure and process of a group; the influence of leadership. The course will provide learning experiences involving theories and concepts of those forces operating in a group situation, as well as a first-hand experiencing of one's own self in a group; feedback on how others see one in a group relation; and involvement in group dynamics.

Interdisciplinary Center

412 Special Group Experiences (3)

Intensive group experience familiarizing the student with a practical encounter approach and its theoretical basis. Sections may be repeated for credit. Open Couple: An exploration of openness, intimacy and personal growth as aspects of the man-woman relationship. Ongoing concerns of enrolled couples are spring-boards for intensive experiences. Open to married and unmarried couples. Transactional Group: Self-actualization using Transactional Analysis. Selected readings to enhance personal growth and development. Ongoing group experience using Transactional Analysis, Gestalt techniques, poetry and other approaches to new self-awareness and personal decisions. Special Social Group.

418 Practicum and Research in Group Leadership (3)

Prerequisite: Interdisciplinary Center 318. Practical experience in developing the ability to effectively lead other persons in their efforts to further both their own individual self-understanding and their ability to interact productively within a peer group.

419 Individual Personality (3)

Major theories of personality development, with emphasis upon the dynamics and modification of the autonomous individual personality.

421 Great 19th-Century Revolutionaries: Darwin, Marx, Freud (3)

The course will consider the three great 19th-century revolutionaries, Darwin, Marx and Freud, with a purpose of discovering the force of their impact on 20th-century society. Their major literary works will be discussed and the students will study their biographies to determine why they became revolutionaries.

422 Jewish and Comparative Mysticism (3)

A description and analysis of Jewish mysticism, and its comparison with other systems of mysticism from different cultures. (Same as Anthropology 422)

450 The Way (3)

An exploration of sensory awareness, interpersonal relations, dreams, body language through study and through laboratory sessions in Gestalt theory.

451 Philosophical Backgrounds of Modern Literature (3)

The connection between representative writers and such thinkers and philosophers as Freud, Spengler, Schopenhauer, Nietzsche, and Kierkegaard. (Same as English 451 and Philosophy 451)

452 Student Protest (3)

The dynamics of student protest with major attention given to contemporary activities in the United States.

470 Seminar: Interdisciplinary Issues (3)

Concentrated study each year of a different key issue approached from an interdisciplinary view and frequently combined with two or three courses in other departments to form a nine-hour block.

499 Independent Study (1-3)

Supervised research projects to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

799 Independent Study (1-3)

Supervised research projects to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.

LATIN AMERICAN STUDIES PROGRAM

FACULTY

William J. Ketteringham

Director

Oswaldo Arana (Foreign Languages), Nancy Baden (Foreign Languages), George Baker (History), Warren Beck (History), Lawrence Christensen (Anthropology), David Feldman (Linguistics), Thomas Flickema (History), Michael Mend (Sociology), Ivan Richardson (Political Science), John Yinger (Political Science)

BACHELOR OF ARTS IN LATIN AMERICAN STUDIES

The B.A. in Latin American Studies is an interdisciplinary program organized and taught by faculty from numerous fields with special training and fieldwork in Latin America.

The program is designed for students desiring a general education with specific knowledge about Latin America. It is designed for students planning careers which will necessitate residence in or knowledge of Latin America, such as teaching, business, scientific research, engineering, journalism or government service. It is also designed for students who are planning to teach Spanish or social studies in the secondary schools. The program serves as a sound base for students preparing for graduate work in Latin American studies or in specific disciplines with a specialization in the region of Latin America.

Foundation Courses:

Language: All students in the program should develop a proficiency level in language measured by Spanish 204 and Portuguese 102. (This need may be met by completion of the above courses, their equivalents, or by passing requirements as stated by the Department of Foreign Languages.)

Recommended Core Courses:

Advanced Conversation and Composition (3) Language: Spanish 317

Spanish American Literature from Modernismo to the Literature: Spanish 441

Present

History and Culture: Spanish 316 Introduction to Spanish American Civiliza-

tion (3)

History 350A Colonial Latin America (3) History 350B Republican Latin America (3)

Recommended Selected Concentrations: 15 units selected from three or more of the following groupings:

Culture:

Portuguese 315 Introduction to Brazilian Culture and Civilization (3)

Portuguese 317 Advanced Conversation and Composition (3)

Portuguese 325 Contemporary Brazilian Civilization (3)

Anthropology 322 Peoples of Mesoamerica (3)

Anthropology 324 Ancient Mesoamerica (3)

Anthropology 325 Peoples of South America (3)

Sociology 460 Comparative Institutions: Latin America (3)

Fine Arts and Literature:

Art 462 Art of Mesoamerica (3)

Art 471 Art of Central and South America (3)

Portuguese 441 Brazilian Literature (3)

Spanish 440 Spanish American Literature from The Conquest to 1888 (3)

Spanish 466 Introduction to Spanish Linguistics (3)

Latin American Studies

History and Politics:

History 450 Change in Contemporary Latin America (3)

History 453 History of Mexico (3)

History 454 Argentina, Brazil, Chile (3)

Political Science 437 Government and Politics of Developing Systems: Latin America (3)

Political Science 438 Latin American Interest Groups (3)

Political Science 463 International Relations and Problems of Latin America (3)

LATIN AMERICAN STUDIES COURSES

For courses within the Latin American studies program which originate in other departments, the students should refer to the department originating the course for the description.

Anthropology

- 322 Peoples of Mesoamerica (3)
- 324 Ancient Mesoamerica (3)
- 325 Peoples of South America (3)

Art

- 462 Art of Mesoamerica (3)
- 471 Art of Central and South America (3)

Economics

- 330 Comparative Economic Systems (3)
- 333 Economic Development: Analyses and Case Studies (3)
- 411 International Trade (3)

Geography

- 333 Geography of Latin America (3)
- 433 Man and Geographic Relationships in Latin America (3)

History

- 350A Colonial Latin America (3)
- 350B Republican Latin America (3)
- 450 Change in Contemporary Latin America (3)
- 453 History of Mexico (3)
- 454 Argentina, Brazil, Chile (3)

Latin American Studies

401 Contemporary Latin America (3)

Prerequisite: consent of instructor. An interdisciplinary team-taught senior seminar on topics relevant to contemporary Latin America. The exact content of the course will vary depending upon the faculty and present conditions within Latin America. May be repeated for credit.

Political Science

- Government and Politics of Developing Systems: Latin America (3) 437
- 438 Latin American Interest Groups (3)
- 463 International Relations and Problems of Latin America

Portuguese

- 315 Introduction to Brazilian Culture and Civilization (3)
- 317 **Advanced Conversation and Composition**
- 325 **Contemporary Brazilian Civilization (3)**
- 441 Brazilian Literature (3)

Sociology

(3) 460 Comparative Institutions: Latin America

Spanish

- 316 Introduction to Spanish American Civilization (3)
- Spanish American Literature from The Conquest to 1888 440
- Spanish American Literature from Modernismo to the Present (3) 441
- 466 Introduction to Spanish Linguistics (3)

Geography and Economics:

Geography 333 Geography of Latin America (3)

Geography 433 Man and Geographic Relationships in Latin America (3)

Economics 330 Comparative Economic Systems (3)

Economics 333 Economic Development: Analyses and Case Studies (3)

Senior Seminar:

Latin American Studies 401 Contemporary Latin America (3)



RUSSIAN AREA STUDIES PROGRAM

FACULTY Robert S. Feldman Coordinator

Ronald Helin (Geography), Lee Kerschner (Political Science), Harvey Mayer (Foreign Languages), Gary Pickersgill (Economics), John Shippee (Political Science), Elena Tumas (English), Michael Yessis (Physical Education)

PART-TIME

Tatiana Erohina (Foreign Languages)

BACHELOR OF ARTS IN RUSSIAN AREA STUDIES

The Russian area studies major is an interdisciplinary program designed for students interested in the language, literature, politics, history, economics, ideology, customs and geography of the Soviet Union. In addition to fulfilling the various cultural objectives common to any liberal arts program, the Russian area studies major provides a foundation for teaching the Russian language and social studies on the elementary and secondary levels. This major serves especially the needs of students intending to pursue graduate studies and those who foresee employment in professions that demand a regional as well as traditional orientation.

To qualify for this major a student must complete (1) 16 units of Russian language or their equivalent, (2) 24 units of upper division Russian area courses from at least four of the following fields: comparative literature, economics, geography, political science, history, foreign language, (3) 15 units of upper division coursework in a related discipline to be determined in consultation with a Rus-

sian area counselor.

RUSSIAN AREA STUDIES COURSES

All courses within the Russian area studies program originate in other departments within the college. Students should refer to the department originating the course for description.

Comparative Literature

- 373 Masters of Russian Literature (3)
- 374 Contemporary Russian Literature (3)
- 499 Independent Study (1-3)

Economics

- 330 Comparative Economic Systems (3)
- 331 The Soviet Economy (3)
- 499 Independent Study (1-3)

Geography

- 366 Geography of the Soviet Union (3)
- 499 Independent Study (1-3)

History

- 434A Russia to 1890 (3)
- 434B Russian Revolution and the Soviet Regime (3)
- 491 Proseminar (3)
- 499 Independent Study (1-3)

Political Science

- 430 Government and Politics of the U.S.S.R. (3)
- 433 Government and Politics of Authoritarian Systems (3)
- 443 Theory and Philosophy of Marxism (3)
- 454 Soviet Union and World Affairs (3)
- 499 Independent Study (3)

Foreign Language: Russian

- 303 Readings in Scientific Russian (3)
- 315 Introduction to Russian Civilization (3)
- 317 Advanced Conversation and Composition (3)
- 375 Introduction to Literary Form (3)
- 400 Russian for Advanced Students and Teachers (3)
- 431 Early Russian Literature (3)
- 441 Tolstoy and Dostoevsky (3)
- 451 The Golden Age of Russian Literature (3)
- 461 Russian Literature from 1917 (3)
- 499 Independent Study (1–3)

PROGRAM IN SOCIAL SCIENCES

FACULTY

George Giacumakis, Jr.

MASTER OF ARTS IN SOCIAL SCIENCES

The Master of Arts in Social Sciences is designed with three possible objectives in view: to provide a broader and more integrated disciplinary background for students later interested in working toward the doctorate in any one of the specific fields of social sciences or in the general area of social sciences; to prepare secondary and elementary school teachers to introduce the social sciences in a more modern and sophisticated way so that the social studies curriculum can be upgraded; and to provide opportunities for students with strong interests in interdisciplinary programs to work out custom-tailored programs which will serve their interests.

Prerequisites

An incoming student must have an undergraduate major or the equivalent in one of the social sciences and a minor in another. The coordinator will determine equivalence to major and minors.

An incoming student must have a grade-point average of 3.0 in upper division (undergraduate) social sciences courses.

Program of Study

- I. Social Sciences Core
 - 500 The Social Sciences in the Modern World: Major Findings, Concepts and Theories (3)
 - 501 The Social Sciences in the Modern World: Basic Skills and Human Dimensions (3)

II. Multidisciplinary Core

This part of the program is to be made up of 21 units in at least *three* social science fields. Twelve of these units must be 500-level or graduate courses. The same three fields should be represented in the 12 graduate units.

III. Project

Every student will prepare a project, the norm of which will be a written research essay, but particulars of which will be defined by the committee for the student. Projects will be tailored to reflect the interdisciplinary effort.

The social sciences include the following related fields: anthropology, economics, geography, history, political science, psychology and sociology.

For further information, consult the coordinator.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

SOCIAL SCIENCES COURSES

500 The Social Sciences in the Modern World: Theories (3)

A seminar providing a philosophical and theoretical basis for graduate work in the area of social science. It will focus on the interrelationships which exist among the various social sciences as they relate to man in his social, physical, and political environment.

501 The Social Sciences in the Modern World: Methods (3)

Analytical comparison of the historical, humanistic, and scientific methodologies in the history of the social sciences. This seminar will also deal with the contemporary trends in the social sciences methods.

597 Project (3)

Prerequisite: consent of instructor.

599 Independent Graduate Research (3)

Open to graduate students in social science with the consent of the program adviser or coordinator. May be repeated for credit.

TECHNOLOGICAL STUDIES PROGRAM

FACULTY

Barry E. Gerber

Acting Director

The technological studies program was established to conduct special programs of studies and to provide course offerings which cut across related disciplines. Activities of the technological studies program are interdisciplinary and include a reference center and curriculum in technological studies as well as special activities such as *Directions: Man and Technology*, a periodical devoted to the field. This program brings together courses from several disciplines on the nature and

This program brings together courses from several disciplines on the nature and impacts of technology and methods of analysis. The general focus of the program is on study of interdisciplinary methods and techniques for analyzing technological change; technology transfer and applications; and analysis of the impacts of technology.

nological change on society.

The program provides an area for special study within recognized major fields of studies. Students may take separate courses or develop an individualized program of studies based on courses, directed readings and research participation. Wherever possible courses are conducted as seminars and bring together lecturers from relevant disciplines included in the sciences and humanities. Through independent studies students are encouraged to pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The technological studies program is directly coordinated with the activities of departments and other programs of the college.

The Man and Technology Program

Man and Technology, a program developed jointly between the technological studies program and the School of Engineering, directed to the study of man in the man-made world, the relationship between technology and the human condition. The program (1) enables engineering students to meet social science and general education requirements of the School of Engineering by engaging in studies closely akin to their major studies; (2) provides a general course of study for students of other technologically oriented disciplines of the college; (3) makes available to nonengineering students a set of general education courses in the analysis and solution of engineering problems; and (4) provides a meeting ground for faculty and students concentrating in different fields of study through participation in interdisciplinary studies of technology.

TECHNOLOGICAL STUDIES COURSES

100 Introduction to Technological Studies (3)

An examination, in survey form, of questions about the development of human technologies. Examination of the various theories and methodologies which can be applied to the study of the role of technology in the process of cultural and social development.

110A Man-made World (3)

(Same as Engineering 110A)

110B Man-made World (3)

(Same as Engineering 110B)

111A Laboratory: Man-made World (1) (Same as Engineering 111A)

111B Laboratory: Man-made World (1)

(Same as Engineering 111B)

201 Society and Technology (3)

The analysis of the relationship between technological development and various aspects of social reality.

211 Technology for Man (3)

An assessment of the special requirements of human beings in relation to technological development. Explores, in various ways, the natural and cultural human needs which a technologist might consider when he creates a piece of technology.

300 Technology and Culture (3)

A survey of the impacts of technology on culture in general and of culture in general on technology.

301 Theories of Technological Change (3)

An examination of normative and fact-oriented theories concerning technological development.

464 Technology and Ideology (3)

An examination of the development and meaning of contemporary technological society: technocracy, technostructure, cybernetics and cyberculture, and associated changes in ideology.

(Sponsored by the Technological Studies Program)

Economics

370 Economics of Research and Development and Technological Change (3)

Engineering

- 100A,B Introduction to Analysis (3)
- 101 Introduction to Engineering (1)
- 417 Engineering Economy (3)
- 423 Engineering Probability and Statistics (3)

History

491 Proseminar in Special Historical Topics (3)

Topic: The American Response to Technological Development

Examination of the historical consequences of technological change and development for American society including the reception of technological images, symbols, and myths into the culture; the adaptation of institutions to imperative needs for technological innovation; and the changing status of technologists in American society with primary focus on the late 19th and 20th centuries.

Interdisciplinary Center

499 Independent Study (1-3)

Through independent study students can pursue topics or problems of special interest beyond the scope of regular courses under the supervision of a faculty adviser. The work is of a research or creative nature, and normally culminates in a paper, project, comprehensive examination or performance. Before registering, the student must get his topic approved by the professor who will be supervising independent study. Independent study courses may be repeated. A student wishing to enroll in more than six units of independent study in any one semester must have the approval of his major adviser and of the chairman of the department(s) in which the independent study is to be conducted.

Technological Studies

799 Independent Study (1-3)

A survey of the problems and prospects for technology and impacts of technology on society. The course brings together lecturers from several disciplines included in the sciences and humanities. The seminar approach is used where possible. The course will include lectures on such topics as the impact of technology on urban life and development; education in the technological society; technology, society, and central planning; the military-industrial-research complex and the new industrial state; the American challenge in international economic affairs; the "new economics," technology, economic growth, and the social order; technology and ideology; the American response to technological change; development of science and technology and cultural change; evolution of scientific ideas; and economics of research and development and technological change.

Management

545 Research and Development Project Management (3)

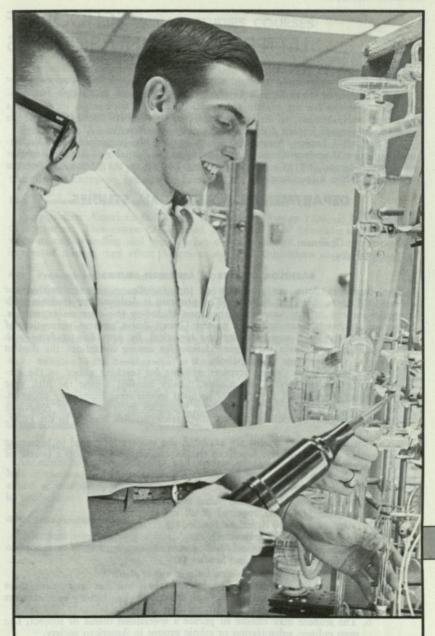
Science Education

461 Development of Science and Technology (3)

Science and Mathematics Education

470 Evolution of Scientific Ideas (3)





ARTS AND SCIENCES

SCHOOL OF LETTERS, ARTS AND SCIENCES

Dean: Hazel J. Jones

The curricula of the School of Letters, Arts and Sciences are designed to provide opportunities for the student to expand his general knowledge, to develop a beginning specialization, to investigate areas of intellectual interest, and, if he chooses, to prepare himself for specialized professional studies.

The School of Letters, Arts and Sciences is presently comprised of 19 departments offering 22 undergraduate majors leading to the Bachelor of Arts or Bachelor of Science degree and 18 master's programs leading to the Master of Arts or

Master of Public Administration degree.

DEPARTMENT OF AMERICAN STUDIES

FACULTY
David J. Pivar
Department Chairman
E. James Weaver

BACHELOR OF ARTS IN AMERICAN STUDIES

The degree in American studies is an interdisciplinary program within the School of Letters, Arts and Sciences. The program is designed for students with a special interest in the American experience, including the overseas experience. It permits, through intensive study of the United States, greater perception of American society, both contemporary and historical. By providing students with an opportunity to discover the larger relationships among disciplines, the student may receive a better sense of the whole.

The American studies degree prepares students for teaching either on the elementary or secondary level. Credentialing, usually handled during the fifth year of study, may be obtained for students enrolled in this interdisciplinary program. American studies is useful for any career in which an understanding of American culture is important. Specialized careers in American studies, leading to the Ph.D.,

are also available.

Since two alternative programs are available, the student interested in becoming a major must consult with an American studies counselor to develop a course of study mutually satisfactory.

American Studies Program

The major consists of 36 units distributed as follows:

Core program (12 units) required of all majors.
 201 Introduction to American Studies (3)

301 The American Character (3)

350 Seminar in Theory and Method of American Studies (3)

401 Proseminar in American Studies (3)

II. Alternative plan (24 upper division units in either plan)

a. The student may choose to work in two but not more than three disciplines related to the American experience; i.e.: history and literature or sociology, anthropology and political science.

b. The student may choose to pursue a specialized theme or subject; i.e.:

mass culture, urbanization or ethnic groups in American society.

 The student may choose to concentrate on 20th century American society.

Students interested in the American studies major must consult with the chairman of the department before establishing an individual course of study.

AMERICAN STUDIES COURSES

201 Introduction to American Studies (3)

With the concept of culture as a unifying principle, this course will focus on four separate time periods in order to provide the framework for an understanding of American civilization. Several different kinds of documents will be used to illustrate the nature and advantages of an interdisciplinary approach.

301 The American Character (3)

Prerequisite: American Studies 201 or History 170A or B or consent of instructor. An intensive examination of the changing national character. Reading assignments will reflect an interdisciplinary approach, ranging from poetry to sociology. Some attention will be paid to the American Negro and Indian in addition to the transplanted European, and foreign perspectives on the American will be considered.

350 Seminar in Theory and Method of American Studies (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. This course is designed to provide the American studies major with an understanding and appreciation of methodology, theories of society and images of man as they effect American studies contributions to scholarship.

401 Proseminar in American Studies (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. The proseminar is designed to permit students to examine the relationship between theory and application. An emphasis will be placed on analytic readings and research. Topics will be announced each semester. Some examples might be: The novelist as historian or the concept of postindustrial society.

402 Religion in the Development of American Society (3)

Prerequisites: American Studies 201 and 301; or History 170A or B; or consent of instructor. An intensive study of the changing role of religion in shaping, reflecting, and challenging dominant American values and institutions. The course will focus on the 19th and 20th centuries, although some attention will be paid to the colonial period.

450 Women in American Society (3)

An effort to explain the rise and decline of feminism in America. The first half of the course will be lecture. The second half will be devoted to discussion aimed at comparing and contrasting the contemporary woman's movement with its predecessors.

499 Independent Study (1-3)

Supervised research projects in American studies to be taken with the consent of instructor and program coordinator. May be repeated for credit.

DEPARTMENT OF ANTHROPOLOGY

FACULTY

Hans H. Leder

Department Chairman

Lawrence Christensen, Marlene de Rios, David Evans, Nga Pare Kaihina Hopa, Christopher Hulse, Leroy Joesink-Mandeville, Roger Joseph, Fred Katz, Peter Koepping, Otto Sadovsky, Richard See, Judy Suchey, Wayne Untereiner*

BACHELOR OF ARTS IN ANTHROPOLOGY

The major in anthropology is designed for students desiring a broad generalist background, students preparing to become teachers of social sciences, and students preparing for graduate work in anthropology and in advanced areal and international specializations.

The required minimum for the major is 45 units, in addition to those taken for

the general education requirement, distributed as follows:

Thirty-three units must be taken in anthropology, 24 in upper division courses. Anthropology 201, 202, 203, 380, 401, 406, and 480 are required. One course is required from areal offerings in the field: Anthropology 204, 303, 321, 322, 324, 325, 328, 340, 341, 345, 347, 350, 351, 352, 360, and 361. Two courses are required from theoretical/institutional courses in the field: Anthropology *313, *315, 403, 410, 411, 412, 413, 415, *416, 420, 421, *422, 423, 424, 425, 428, 429, 430, 440, 441, 450, *453, 460, and 470. (The courses marked * are cross-listed with other departments and programs. They may be used to satisfy the major requirement for: either the courses in anthropology; or related courses.)

Minimum units _______ 33

Twelve upper division units are to be taken in the related social science fields of economics, geography, history, political science, sociology, and psychology, to be approved by the major adviser. Advanced work in biological science, the fine and applied arts, and the humanities may be substituted for these units by students with specialized interests with the approval of their advisers. Students interested in specializing in anthropological linguistics are urged to take courses from the college's program in linguistics. Students interested in specializing in physical anthropology are urged to take some of the following biological science courses: 161 Principles of Zoology; 312 Genetics; 361 Mammalian Anatomy and Physiology; 404 Evolution; 463 Comparative Vertebrate Anatomy; 465 Animal Ecology; and 471 Natural History of the Vertebrates. Students interested in specializing in primitive art are urged to take many of these art courses: 451 Oceanic Art; 452 Art of Sub-Saharan Africa; 461 Art of North American Indians; 462 Art of Mesoamerica; 471 Art of Central and South America.

Students considering advanced professional careers in research, teaching, or applications of anthropology are urged to explore and sample widely from course offerings in the other social sciences, the biological and natural sciences and the humanities and arts. Through a judicious selection of these courses it is hoped that Anthropology majors will broaden their interests and diversify and develop their skills in working towards a variety of individualized career objectives.

TEACHING MINOR IN ANTHROPOLOGY

The minor in anthropology is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. Twenty-one units must be taken in anthropology; 15 of these in upper division courses. Anthropology 201 or 203, 202, and 380 are required. Two additional courses must be

^{*} College administrative officer.

selected from areal offerings in the field: Anthropology 303, 321, 322, 324, 325, 328, 340, 341, 345, 347, 350, 351, 352, 360, and 361. Another course must be selected from theoretical/institutional courses in the field: 313, 315, 403, 406, 410, 411, 412, 413, 415, 416, 420, 421, 422, 423, 424, 425, 428, 429, 430, 440, 441, 450, 453, 460, and 470. A final course must be either Anthropology 401 or 480.

MASTER OF ARTS IN ANTHROPOLOGY

The program for this degree provides advanced study of general anthropology as well as research and other learning experiences for students with specialized areas of interest or competence.

Prerequisites

Admission to the program requires:

- a) A B.A. degree with a minimum of 24 units in anthropology including the following courses or their equivalents:
 - 201 Introduction to Physical Anthropology or
 - 202 Introduction to Cultural Anthropology
 - 203 Introduction to Archaeology
 - 380 Ethnological Theory
 - 401 Ethnographic Field Methods
 - 406 Descriptive Linguistics480 History of Anthropology

One areal course (e.g. Ant 328, Peoples of Africa)

One theoretical or topical course (e.g. Ant 415, Culture and Personality: Psychological Anthropology)

Reading courses and special examinations may be substituted for some of these prerequisites by the department.

b) A GPA of 3.0 (B) for all work taken in anthropology.

c) Evaluation and acceptance by the graduate study committee. The applicant must submit at least two letters of recommendation and may be required to attend a personal interview at the discretion of the graduate study committee.

Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of additional courses, selected by the graduate study committee, with at least a 3.0 (B) average.

Program of Study

The study plan for the degree must include the following:

1. Ant 501 Methodology of Anthropological Research	Unit.
2. Ant 502 Contemporary Theory in Cultural Anthropology	3
3. Ant 598 Thesis	6
4. Two additional graduate seminars in anthropology	6
5. Upper division or graduate work in anthropology	6
6. Upper division or graduate work in related fields	6
	30

Any adviser-approved 300- or 400-level course taken as a graduate student may be used for requirements 5 and 6. Ant 599 Independent Graduate Research may

be used for requirement 5.

For continuation in the program an average of 3.0 (B) for all work in the study plan must be maintained. A thesis must be completed for the degree. Normally a student will register for thesis two times, for 3 units each semester. Students must demonstrate reading knowledge of an appropriate foreign language prior to completion of the degree.

For further information, consult the Department of Anthropology.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

ANTHROPOLOGY COURSES

201 Introduction to Physical Anthropology (3)

Man in biological and evolutionary perspective. Methods, findings, concepts, and issues in the study of primates, fossil men, and races.

202 Introduction to Cultural Anthropology (3)

The nature of culture and its significance for man. Uniformities and variations in human cultures. Cultural analyses of major institutional forms such as the family, economy, government, religion and art with an emphasis on preliterate peoples. A consideration of central problems of cultural comparison and interpretation.

203 Introduction to Archaeology (3)

Relationship of archaeology, prehistory, and culture history; field methods and analysis of archaeological data. A survey of world culture history, from Pleistocene beginnings to the threshold of civilization; and introduction to the world's early centers of civilization.

204 Man's Many Faces (3)

The study and analysis of a broad selection of human societies, which will provide a perspective on how human problems have been solved and the possibilities for new solutions to our own problems. (Replaces Anthropology 301, World Ethnography)

303 Woman in Cross-Cultural Perspective (3)

Prerequisite: Anthropology 202. A description, analysis and survey of the social position of women in cultures of the world. Attention is given to the influence of biological determinants as they are shaped by cultural factors such as beliefs, values, expectations and socially defined roles for women. The changing role of women in industrial society will form an important analytical segment.

313 Human Genetics (3)

(Same as Biological Science 313)

315 Jazz: Past, Present and Future (3)

(Same as Interdisciplinary Center 315)

321 The American Indian (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of North American Indians north of Mexico; origins, languages, culture areas, cultural history; the impact of European contacts.

322 Peoples of Mesoamerica (3)

Prerequisite: Anthropology 202 or consent of instructor. General survey of the culture history and ethnology of the Mesoamerican culture-area, with treatment of each of the principal subareas in depth. Analysis of both the native civilizations of Mesoamerica and the present-day ethnological societies, emphasizing sociopolitical organization, economic systems and religious systems.

324 Ancient Mesoamerica (3)

Prerequisite: Anthropology 202 or consent of instructor. A culture history survey of the principal cultures of pre-Columbian Mesoamerica from the dawn of incipient agriculture to the Spanish conquest.

325 Peoples of South America (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of Central and South America. Description of selected cultures representative of different cultural areas before and after contacts with Western countries.

328 Peoples of Africa (3)

Prerequisite: Anthropology 202 or consent of instructor, A cultural survey of Africa. Description of selected cultures representative of different cultural areas before and after contacts with Western and Asian countries.

340 Aboriginal Peoples of Asia (3)

Prerequisite: Anthropology 202 or consent of instructor. Survey of cultural areas outside the centers of high civilizations of China and Japan. Emphasis on steppenomadism, Siberia, and ethnic splinter groups between India and the Philippines, with focus upon their influence on the cultural centers and vice versa. Ecology, migration routes, social organization, religious systems.

341 Peoples of China and Japan (3)

Prerequisite: Anthropology 202 or consent of instructor. Description and analysis of the religious, social and technological systems of the civilizations of Japan and China, as well as the impact of nomadic herders of North and Central Asia upon those centers, from an anthropological point of view. Also, a comparison of community studies on these regions.

345 Peoples of the Middle East (3)

Prerequisite: Anthropology 202 or consent of instructor. A cultural survey of the Middle East with descriptions of selected cultures (Arab urban, nomadic, Jewish, Turk, Berber, Kurd).

347 Peoples of the Pacific (3)

Prerequisite: Anthropology 202 or consent of instructor. A survey of the native peoples and cultures of the Pacific Islands, including Australia; the social and cultural patterns of representative cultures of various areas; special ethnological and theoretical problems.

350 Peoples of Western Europe (3)

Prerequisite: Anthropology 202 or consent of instructor. Representative groups considered in modern and historical perspective, stressing especially rural-urban relationships and the dynamics of change. (Formerly Peoples of Europe)

351 Peoples of Eastern Europe (3)

Prerequisite: Anthropology 202 or consent of instructor. Peasant cultures of Russia, Southeast Europe, Poland, Czechoslovakia and the Baltic area, their traditional way of life and the impact of industrialization and Communist ideology.

360 Contemporary American Culture (3)

Prerequisite: Anthropology 202 or consent of instructor. Application of anthropological methods, categories of analysis, and types of interpretation to American culture. Survey and critique of selected community studies and other kinds of relevant research.

361 Afro-American Culture (3)

Prerequisite: Anthropology 202 or consent of instructor. An introduction to African culture. A survey of African cultural characteristics in the New World, as they relate to contemporary events, including art, ideas, dance and literature.

380 Ethnological Theory (3)

Prerequisite: Anthropology 202 or consent of instructor. A survey on the theories about the position of man as a social and cultural being in the network of biological and environmental as well as intrapersonal factors, as described and thought about by philosophers in Greece, during the Renaissance, and particularly in the 19th century up to modern times in the Western World.

Anthropology

401 Ethnographic Field Methods (3)

Prerequisites: Anthropology 202 and 6 additional units of anthropology or consent of instructor. Anthropological field research by students on various problems using participant observation techniques.

403 Archaeological Fieldwork (3)

Prerequisites: Anthropology 202 or 203 and consent of instructor. Participation in the excavation of a local archaeological site. Archaeological mapping, photography and recording. Laboratory methods of cataloging, preservation, description and interpretation of archaeological materials. Saturday field sessions. (6 hours fieldwork per week).

406 Descriptive Linguistics (3)

(Same as Linguistics 406)

410 Language and Culture (3)

Prerequisite: Anthropology 202 or consent of instructor. The study of language as a factor in culture. Introduction to anthropological linguistics. Trends in the study of language and culture. (Same as Linguistics 410)

411 Folklore (3)

Prerequisite: Anthropology 202 or consent of instructor. An introduction to the study of folktales, myths, legends, proverbs, riddles and other forms of the verbal traditions of peoples. Major concepts and theories and research methods in the study of folklore.

412 Comparative Oral Literature (3)

A comparative survey of oral literature and its role in society. The types of oral narratives, their themes, meanings, and functions will be analyzed.



413 Ethnological Music (3)

Music, musicmaking, and musicians in various nonliterate societies.

415 Culture and Personality: Psychological Anthropology (3)

Prerequisites: Anthropology 202 and Psychology 331 or 351 or Sociology 341 or consent of instructor. Comparative study of the relationship between the individual and his culture. Child training in nonwestern cultures. Survey of important concepts, studies, and research techniques. Changing viewpoints and new directions in culture-personality studies.

416 The Quest for Self: East and West (3)

(Same as Interdisciplinary Center 403)

420 Primitive Value Systems (3)

Prerequisite: Anthropology 202 or consent of instructor. Study of what properly is considered "common sense" in the everyday life of people living within differing sociocultural environments.

421 Anthropology of Religion (3)

Prerequisite: Anthropology 202 or consent of instructor. Examination of beliefs and practices in the full human variation of religious phenomena, but with an emphasis on primitive religions. The forms, functions, structures, symbolism, and history and evolution of man's religious systems. Analysis of major categories, concepts, and theoretical models used by anthropologists in the study of religion.

422 Jewish and Comparative Mysticism (3)

(Same as Interdisciplinary Center 422)

423 Comparative Aesthetics and Symbolism (3)

An analysis of the metaphysical and mystical systems underlying the "grammars" of the art, poetry, languages, myths, music, and rituals of various nonliterate and literate peoples and their development into creative experiences.

424 Psychedelic Anthropology (3)

A study of states expanded consciousness. It is a synthesis of anthropology, sociology, philosophy, psychology, psychoanalysis, mythology, mysticism, esoteric systems and the religious traditions of East and West, including Yoga and the Vedanta, Zen Buddhism, Taoism, Islam, ancient and primitive religions, Judaism and Christianity.

425 Anthropology of Law and Government (3)

Prerequisite: Anthropology 202 or consent of instructor. Sources of law-government in primitive societies; the cultural background of law; the functions and development of law and government in primitive politics; transitions to and comparisons with classical and modern legal and political systems.

428 Social Anthropology (3)

Prerequisite: Anthropology 202 or consent of instructor. A study of the social organization of preindustrial societies; religious, political and economic institutions; status and value systems; conditions and theories of change.

429 Kinship and Social Organization (3)

Prerequisites: Anthropology 202 and 428 or consent of instructor. Kinship systems in primitive society and their significance in the organization of social life. Theories of kinship, marriage regulations, and kinship role patterns. Analysis of the formal properties of diversely structured kinship systems and techniques of kinship and structural analysis.

Anthropology

430 Economic Anthropology (3)

Prerequisite: Anthropology 202 or consent of instructor. Analysis of anthropological concepts of economy, ecology, and technology; relationship between habitat, economy, and culture. A survey of the different types of economic systems found throughout the world; outline of the economic development of mankind.

440 Human Evolution (3)

Prerequisite: Anthropology 201. Advanced human evolution; human physiological and related cultural evolution as displayed in the fossil record, adaptations, problems in human evolution.

441 Human Races (3)

Prerequisite: Anthropology 201. An historical study of racial classifications; analysis of processes of race formation; analysis of the concept of race and racism; study of variation in modern populations.

450 Culture and Education (3)

Prerequisite: Anthropology 202 or Education 301 or consent of instructor. The transmission of values, implicit cultural assumptions, and the patterning of education in cross-cultural perspective, with special attention to American culture and development problems.

453 Cultural Ecology (3)

(Same as Geography 453)

460 Culture Change (3)

Prerequisites: Anthropology 202 and 301 or consent of instructor. Interrelations between cultural, social and psychological processes in the dynamics of culture growth and change. Impact of western technology on tribal and peasant societies. Anthropological contributions to the planning of directed sociocultural change in selected areas.

470 Philosophical and Behavioral Foundations of Anthropology (3)

Prerequisite: Anthropology 202 and open to lower division students with the consent of the instructor. Consideration of basic assumptions and contexts of anthropological work. The synthesis of ideas and methods into professional skills and careers.

480 History of Anthropology (3)

Prerequisite: at least 12 units of anthropology or consent of instructor. Historical antecedents of modern anthropology. A systematic survey of the development of anthropology as a scientific field; an examination of the principal contributions of leading anthropologists, past and present. Reinterpretations and emerging trends.

490 Senior Seminar in Anthropology (3)

Prerequisite: consent of instructor. Topics in anthropology selected by the faculty and students participating in the course.

499 Independent Study (1-3)

Prerequisites: at least 15 units of anthropology and consent of the adviser. Student selection of an individual research project involving either library or fieldwork. There are conferences with the adviser as necessary, and the work results in one or more papers. May be repeated for credit.

501 Seminar: Methodology of Anthropological Research (3)

Prerequisites: Anthropology 202, 401, and consent of instructor. Examination, analysis and evaluation of the contemporary methodological spectrum in anthropology and of new trends in research planning and implementation. Consideration and critique of specific cases involving differing research designs.

502 Contemporary Theory in Cultural Anthropology (3)

Prerequisite: Anthropology 480 or consent of instructor. Critique of the basic assumptions and theoretical positions of leading contemporary anthropologists.

504 Seminar: Selected Topics in Anthropology (3)

Prerequisites: completion of undergraduate major in anthropology and/or graduate standing or consent of instructor. The topic chosen and a general outline of the seminar will be announced by the Department of Anthropology to graduate students in Anthropology and circulated to other potentially interested departments. May be repeated.

505 Seminar: Phonetics and Phonemics (3)

(Same as Linguistics 505)

507 Seminar: Morpho-syntax (3)

(Same as Linguistics 507)

508 Modern Theories of Syntax (3)

Prerequisite: Anthropology 507 or Foreign Languages 507 or Linguistics 507 or consent of instructor. Speech 404 and Anthropology 410 recommended but not required. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical, and electromechanical bases and techniques of utterance analysis. (Same as Linguistics 508)

550 Seminar in Problems in the Teaching of Anthropology (3)

Prerequisite: consent of instructor. Discussion of a variety of methods and materials for the teaching of anthropology at primary, secondary, and undergraduate college levels.

592 Field Methods in Linguistics (3)

Prerequisites: Anthropology 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language. (Same as Linguistics 592)

598 Thesis (3-6)

Prerequisites: graduate standing and consent of instructor. The writing of a thesis based on original field research, library study or an educational project and its analysis and evaluation. May be repeated for credit.

599 Independent Graduate Research (1-3)

Prerequisite: consent of department. Individual research on either a field or a library study, with conferences with a project adviser as necessary, and resulting in one or more papers. May be repeated for credit.

DEPARTMENT OF BIOLOGICAL SCIENCE

FACULTY

Donald B. Bright

Department Chairman

Phillip Adams, Natalie Barish, LuBelle Boice, L. Jack Bradshaw, Bayard Brattstrom, Calvin Davenport, Ted Hanes, Michael Horn, Claris Jones, Charles Lambert, Miles McCarthy,* Lonnie McClanahan, Kenneth McWilliams, Marvin Rosenberg, Alvin Rothman, James Smith, Donald Sutton, George Turner, David Walkington, Joel Weintraub, Melbourne Whiteside, Jerome Wilson

The Department of Biological Science offers a program leading to the Bachelor of Arts in Biological Science for students preparing to enter graduate and professional schools, for those preparing to teach, and for those preparing for careers in industry and government service.

It is the conviction of the faculty in biological science that the purposes of all these students can best be served by building their curricula on a core of courses fundamental to the science of biology. This core curriculum includes biological principles, ecology, genetics, microbiology, and physiology.

In considering the curricula beyond this core of subjects, the faculty has agreed that the interest and goals of individual students can best be satisfied through individual counseling rather than through prescribed programs. After discussion with their advisers, students will elect those upper division courses which will satisfy their individual interests and professional goals.

To qualify for a baccalaureate degree in biological sciences, students must have a C average in all required related courses. No credit toward the major will be allowed for biological science courses in which a grade D is obtained. A proficiency in one modern foreign language (Russian, Spanish, German, French, others by petition) is required. This requirement is normally met by completing the 203 or 303 level course in the language (e.g. German 101, 102, 303). Upon approval of the adviser, nine units of any combination of courses in quantitative methods, statistics, or advanced mathematics (above Math 150A) may be substituted for the language requirement.

Advanced students will be permitted to enroll in Biological Science 499, Independent Study. All full-time upper division students are expected to attend the departmental seminars.

The Department of Biological Science also offers a curriculum for students majoring in other fields who wish to minor in biology.

BACHELOR OF ARTS IN BIOLOGICAL SCIENCE

One hundred twenty-four units including general education (see page 74), foreign language, 36 units in biology courses, and supporting courses in physical sciences and mathematics. The supporting courses must include one year of inorganic college chemistry including qualitative analysis with laboratory, two semesters of organic chemistry with laboratory, one semester of college mathematics, and one year of college physics with laboratory.†

^{*} College administrative officer.
† Those students seeking careers in biology at the Ph.D. level and careers in medicine should take a full year of organic chemistry, a year of analytical geometry and calculus, and quantitative chemistry with laboratory.

Minimum Course Requirements for the Major †

Lower D	ivision	enbury ik	
100	to the second semiciter of organized lively assistance	Units	Units
141	Principles of Botany	- 4	
161	Principles of Zoology	- 4	
	en e	8	8
Upper D	ivision		
Biolog	rical Science		
	Molecular Biology	. 4	
312	Genetics Lecture	3	
316	Principles of Ecology	_ 3	
320	General Microbiology	4	
	Principles of Ecology General Microbiology Electives—14 units, of which 4 must be outside area of emphasis	14	
		or Tolkier	
		28	28
			36
	Minimum Requirements for Biological Science Minor	hingord	
Biolog	is a shortest the contract of the state of the savents are snown	munpor	
141,	161 Principles	STATURE TRAIN	8
404	Table 1 1 1 1 1 1 1 1		
312			3
	General Microbiology		4
361	Mammalian Anatomy and Physiology		4
	Electives		4
			23
			43

MASTER OF ARTS IN BIOLOGY

The program for this degree is based on the assumption that modern science necessitates broad preparation through the master's level of training. It permits breadth of preparation and at the same time concentration in an area such as botany, microbiology or zoology. In design it offers sufficient breadth and depth to strengthen the student's academic understanding and improve his competence for (a) advanced graduate work toward the doctoral degree in biological science, (b) teaching at all levels—elementary, secondary, and community college, (c) participating in research programs, (d) participating in various field service and conservation positions with both the state and national governments, (e) entering the field of public health service, and (f) technological work in the health sciences. An M.A. in Biology is available to students who are planning technological work in a clinical laboratory through the medical biology concentration.

Prerequisites

Prerequisites to classification in the M.A. program in Biology are as follows: (1) B.A. in Biological Science at CSCF or other accredited institution with a grade-point average of 3.0 in biological science and a GPA of 2.5 in the related sciences of mathematics, chemistry and physics; (2) Study plan prepared in conference with the adviser and submitted to the departmental Graduate Committee. Students with limited subject or grade deficiencies may be considered for admission to the program upon completion of 12 units of postgraduate studies in biology, mathematics, chemistry or physics, with a GPA of 3.0. These courses will be selected in con-

[†] Substitutions in the program may be made for transfer students and others upon the recommendation of the adviser and the approval of the department chairman.

Biological Science

ference with the adviser. Supervising the work of graduate students requires the personal attention of advisers. To insure that advisers are available for newly classified students, it is highly recommended that a graduate student complete his work within three years after classification.

Advancement to candidacy for the M.A. in Biology will be granted after completing 15 units of coursework on the study plan with a GPA of 3.0. In addition, the student must pass the departmental qualification examination which will be offered at the beginning of each semester. Two attempts will be allowed to successfully complete this exam. The first attempt must be made no later than the semester following classification.

Program of Study

A student who meets the prerequisites may apply for classified graduate status. He must file a study plan including 30 units of adviser-approved graduate work, at least 15 of which must be at the 500 level. All study plans must include Bio Sci 599, Independent Graduate Research, and Bio Sci 598, Thesis, and at least one departmental seminar. Six units must be outside the principal area. Further electives may be possible. Required is a thesis or a published paper, or a paper accepted for publication, acceptable to the adviser and committee, covering a field or laboratory research problem. A final oral examination on his research is also required.

The program of study for the medical biology concentration will include the general requirements as shown above, with the following variations: (1) the study plan must include adequate coursework in the paramedical sciences, and (2) Bio

Sci 514A,B,C,D,E (taken at an affiliated hospital laboratory school).

For more detailed information or advisement, students should consult the chairman of the Biological Science Department, or the graduate coordinator of the Biological Science Department.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

BIOLOGICAL SCIENCE COURSES

101 Elements of Biology (5)

An introduction to basic concepts in the study of living organisms and to the characteristics of the natural environment. (3 hours lecture, 6 hours laboratory)

102 Crisis Biology (3)

Presents to the student basic biological knowledge necessary for understanding our current environmental problems. With this information the ecology of man and his ecosystem is analyzed and crisis areas discussed.

141 Principles of Botany (4)

Emphasis will be placed on the dynamic aspects of botany although the traditional areas of morphology and classification will not be neglected. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

161 Principles of Zoology (4)

An introduction to the principles of animal biology with special reference to the structure, classification, phylogeny, physiology, behavior and ecology of animals. Required of all biology majors. (2 hours lecture, 6 hours laboratory)

267 Insects and Man (3)

Insect biology and ecology; the effects of insects upon civilization past and present; control of insects and effects upon the environment; and the superiority of insects. (2 hours lecture, 3 hours laboratory)

305 Molecular Biology (4)

Prerequisites: one year of college biology; prior completion or concurrent enrollment in the second semester of organic chemistry. An introduction to the physical and chemical aspects of biological science including macromolecular synthesis and function as well as the biochemistry of subcellular activities. Topics include studies of modern data-gathering methods, organelle structure and function, bioenergetics, protein biosynthesis, and gene function at the molecular level. (2 hours lecture, 6 hours laboratory)

312 Genetics Lecture (3)

Prerequisite: one year of college biology or permission of the instructor. The general principles and modern developments in the study of heredity. Course designed for biology majors: nonmajors see Bio Sci 313.

312L Genetics Laboratory (1)

Prerequisite: Bio Sci 312. The use of a variety of organisms and methods for exploring basic principles of genetics. (3 hours laboratory)

313 Human Genetics (3)

Prerequisite: Bio Sci 101 or equivalent. Principles of heredity with emphasis on methods of analysis, on interaction of genes and environment, and on gene populations in humans. (Same as Anthropology 313)

316 Principles of Ecology (3)

Prerequisite: one year of college biology or consent of instructor. A community approach to plant and animal systems. Environmental factors, biological cycles, community types and contemporary environmental problems are discussed. Students are provided with background for the advanced ecology courses. (3 hours lecture)

316L Principles of Ecology Laboratory (1)

Prerequisite: Bio Sci 316 (can be enrolled concurrently). Laboratory and field techniques used in ecological studies are taught. Student projects and one or more field trips required. (3 hours laboratory)

318 Marine Biology (4)

Prerequisite: one semester of college biology or equivalent, or consent of instructor. Physical and chemical aspects of the ocean as a background for the study of marine organisms and habitats, including food cycles, communities, identification, ecology, methods of collecting and preserving local marine algae, invertebrates, and fish. (3 hours lecture, 3 hours laboratory or fieldwork)

320 General Microbiology (4)

Prerequisites: one year of college biology and one semester of organic chemistry, or consent of the instructor. An introduction to the study of the morphology, growth, physiology and genetics of bacteria and other microorganisms. A consideration of the role of microorganisms as agents of change in natural processes. (2 hours lecture, 6 hours laboratory)

342 Plant Anatomy (4)

Prerequisite: Bio Sci 141 or one year of college biology or equivalent. The origin, development, and maturation of leaves, stems, roots, and flowers of vascular plants. (2 hours lecture, 6 hours laboratory)

344 Plant Morphology (4)

Prerequisite: Bio Sci 141 or consent of instructor. A study of the modern concepts of plant morphology, including biochemical and morphogenetic considerations. (2 hours lecture, 6 hours laboratory)

Biological Science

361 Mammalian Anatomy and Physiology (4)

Prerequisite: one year of college biology or consent of instructor. Study of the structure and function of the human organism. (2 hours lecture, 6 hours laboratory)

362 Histological Technique (3)

Prerequisite: one year of college biology or consent of instructor. Theory and practice of the preparation of cells and tissues for microscopic study. 1 hour lecture, 6 hours laboratory)

394 Readings in Biological Sciences (1)

Prerequisite: Bio Sci 101 or equivalent. Directed readings of classical and contemporary biological literature with periodic group discussions concerning the methods and principles studied. This course is designed for the nonmajor and is open to seniors only. (3 hours laboratory)

401 Biogeography (3)

Prerequisites: one year of college biology and Bio Sci 316 or 404 or consent of instructor. A study of the present day distribution of plants and animals based upon classification, fossil records, morphology, geography and consideration of current theories. (3 hours lecture)

403 Biosystematics (4)

Prerequisites: one year of college biology, and Bio Sci 316 or 404 and consent of instructor. An introduction to the principles and techniques of biosystematics, including evolutionary mechanisms, the species concept, taxonomic procedures and nomenclature. (2 hours lecture, 6 hours laboratory)

404 Evolution (3)

Prerequisite: one year of college biology or consent of instructor. A study of evolution, including the history of evolutionary thought; origin of universe, earth and life; geological and paleontological history of the earth; evidences for evolution derived from comparative anatomy, embryology, genetics, zoogeography; mechanisms of evolution.

404L Evolution Laboratory (1)

Prerequisite: Bio Sci 404 (may be taken concurrently). (3 hours laboratory)

406 Biometry (4)

Prerequisite: Math 120 or 150A; upper division standing in biology. Introduction to experimental design, interpretation, and practical application of statistics to biological problems. (3 hours lecture, 3 hours laboratory)

410 General Cell Physiology (4)

Prerequisites: one year of college biology and one semester of organic chemistry or consent of the instructor. Characteristics of life at the cellular level; processes by which the cell obtains energy and material and forms new cell substances; control of these processes by the cell; organization of structures and enzyme systems within the cell. (2 hours lecture, 6 hours laboratory)

412 Population Genetics (3)

Prerequisite: Bio Sci 312 or 313. Theory and literature of genetic change in populations, primarily one-locus: maintenance of genetic variability, inbreeding, drift, migration and selection treated singly and in combination. Estimation of genetic parameters. (3 hours lecture)

416 Limnology-Fresh Water Ecology (4)

Prerequisites: Bio Sci 141, 161, 316 and Chem 101B. Comparative physical, chemical and biological characteristics of inland waters and estuaries. (2 hours lecture, 6 hours laboratory)

417 General Oceanography (3)

Prerequisites: Bio Sci 141 and 161, and Chem 101A,B (may be concurrent), Physics 211. Introduction to oceanography including the study of the extent of the oceans; the chemical nature of the sea; marine geology; causes and effects of currents and tides; and interrelationships of plants and animal life.

418 Biological Oceanography (4)
Prerequisite: Bio Sci 417. Biological factors of the marine environment; physiological and ecological relationships; methods of sampling, identification and analysis. (3 hours lecture, 3 hours laboratory)

419 Marine Ecology (4)

Prerequisites: upper division or graduate standing in biological sciences, and successful completion of Bio Sci 316 and 418 or 461 or 446. A course in the fundamentals of ecology embracing the aspects of the interrelations of organisms and their environment with emphasis on productivity, population dynamics, behavior and biological associations. (2 hours lecture, 6 hours laboratory)

423 Pathogenic Microbiology (4)

Prerequisite: one semester of microbiology or bacteriology. Study of the biology of infectious disease: mechanisms of microbial pathogenicity; host defenses; mode of action of antibiotics and other antimicrobial agents; characteristics of specific pathogenic bacteria, fungi and viruses. (2 hours lecture, 6 hours laboratory)

424 Immunology (4)

Prerequisites: Bio Sci 305, 320 and Chem 301A, or consent of the instructor. A study of the cellular and molecular nature of the immune process. Emphasis is placed on the nature of antibodies and antigens, their role in immunity and the specificity of their reactions. Other topics, such as transplantation, immuno-chemistry and the immunology of neoplastic disease are discussed. The laboratory is designed to give the student a basic knowledge of the techniques of modern immunology. (2 hours lecture, 6 hours laboratory)

426 General Virology (2)

Prerequisites: Bio Sci 305, 312 and 320. A comparison of bacterial, animal and plant viruses. A detailed study of viral structure and host-virus interaction in the viral replication process.

426L General Virology Laboratory (2)

Prerequisite: prior completion or concurrent enrollment in Bio Sci 426. Experimental methods for studying bacterial and animal viruses, including techniques for growth and titration of infectious viral units and physical characterization of virus structures. (6 hours laboratory)

432 Microbial Genetics (2)

Prerequisites: Bio Sci 305, 312 and 320. An advanced course on genetic mechanisms in microorganisms with particular emphasis on bacteria and bacterial viruses.

432L Microbial Genetics Laboratory (2)

Prerequisites: prior completion or concurrent enrollment in Bio Sci 432. Experimental techniques used in research on the genetics of bacteria and bacterial viruses. (6 hours laboratory)

436 Microbial Growth and Physiology (4)

Prerequisites: one semester courses in microbiology and organic chemistry. An advanced treatment of the growth, physiology and structures of the microorganisms, with emphasis on study of the free-living bacteria, yeasts and molds. (2 hours lecture, 6 hours laboratory)

289

Biological Science

439 Microbial Ecology (4)

Prerequisites: Bio Sci 316 and one semester of microbiology or bacteriology. The interaction of microbes and their environment; the influence of physical and chemical factors on the distribution and activities of microbial populations; the effects of microbes on the living and nonliving environment. Basic principles of microbial enrichment, selection and succession. On completion of the basic experiments each student will select and perform a field and laboratory study in microbial ecology. (2 hours lecture, 6 hours laboratory)

441 Plant Taxonomy (4)

Prerequisite: Bio Sci 141 or consent of instructor. An introduction to the study of classification and evolution of vascular plants with an emphasis on the flowering plants. (2 hours lecture, 6 hours laboratory)

443 Plant Ecology (4)

Prerequisites: Bio Sci 316, 441 and 444. Advanced study of plants in relation to their environment. Topics include: environmental factors and their measurement; plant community structure, their description and analysis; physiology; succession; and man-related problems. (2 hours lecture, 6 hours laboratory; student projects and one or more field trips required)

444 Plant Physiology (4)

Prerequisites: Bio Sci 141 or equivalent and one semester of organic chemistry or consent of instructor. A study of plant growth, nutrition, food synthesis, and metabolism. (2 hours lecture, 6 hours laboratory)

445 Mycology (4)

Prerequisite: Bio Sci 141. A study of the comparative morphology and taxonomy of the fungi with an emphasis on morphological, physiological and reproductive characteristics demonstrating evolutionary relationships. (2 hours lecture, 6 hours laboratory)

446 Algology (4)

Prerequisites: Bio Sci 141 and consent of instructor. A study of the comparative morphology and taxonomy of the algae including a consideration of the physiological and chemical characteristics demonstrating evolutionary relationships. (2 hours lecture, 6 hours laboratory)

452 Economic Botany (3)

Prerequisite: Bio Sci 141 or consent of the instructor. An examination of man's dependence upon and economic interest in plants throughout the world. Includes a discussion of the domestication of plants and the origin of agriculture. (2 hours lecture, 3 hours laboratory)

461 Invertebrate Zoology (4)

Prerequisite: Bio Sci 161, or a year of college biology or consent of instructor. Evolution, classification, physiological adaptations, and biology of invertebrate animals. Includes dissection, identification and observation of living animals. (2 hours lecture, 6 hours laboratory, or fieldwork)

462 Parasitology (4)

Prerequisite: one year of general biology or consent of instructor. A consideration of the symbiotic relationships existing at all levels of animal organization. Emphasis on the natural history, biology, physiology, ecology and laboratory recognition of symbiotic organisms. (2 hours lecture, 6 hours laboratory)

463 Comparative Vertebrate Anatomy (4)

Prerequisite: a year course in general zoology or biology or consent of instructor. A comparative study of the chordates, with emphasis on morphology and evolution of various organ systems from fish through mammals. Includes comparative dissection of numerous vertebrates. (2 hours lecture, 6 hours laboratory)

464 Embryology (4)

Prerequisite: a year course in general zoology or biology or consent of instructor. Study of development from gametogenesis through organogenesis. Laboratory work includes a study of selected vertebrate and invertebrate embryos. (2 hours lecture, 6 hours laboratory)

465 Animal Ecology (4)

Prerequisite: Bio Sci 316. A study of the factors that affect the distribution and abundance of animals. Emphasis on field techniques, statistical applications, and theoretical approaches. (2 hours lecture, 6 hours laboratory; one or more weekend trips per semester required)

466 Animal Behavior (3)

Prerequisite: one year of college biology or consent of instructor. An introduction to the current problems in animal behavior including sensory capacities, orientation, innate and learned patterns, and social behavior of invertebrates and vertebrates.

467 Entomology (4)

Prerequisite: Bio Sci 161, or a year of college biology or consent of instructor. Anatomy, physiology, evolution, and biology of insects and other terrestrial arthropods. Laboratory includes detailed dissection, collection, identification, and observation of living arthropods. (2 hours lecture, and 6 hours laboratory or fieldwork)

468 Comparative Animal Physiology (4)

Prerequisites: principles of zoology, Chem 101A, 101B, and organic chemistry. A comparative survey of organ systems and physiological processes among invertebrate and vertebrate animals. (2 hours lecture, 6 hours laboratory)

470 Arthropod Morphology (4)

Prerequisite: Bio Sci 461 or 467. Survey of evolution, form and function of exoskeleton and organ systems of terrestrial arthropods, with emphasis on insects. (2 hours lecture, 6 hours laboratory)

474 Natural History of the Vertebrates (4)

Prerequisites: one year of college biology; comparative vertebrate anatomy, or evolution or consent of instructor. Natural history and ecology of the vertebrates including behavior, temperature and water regulation, migration and homing, echolocation, diving adaptations, venoms, color and coloration. Laboratory and field emphasis on observation, identification, behavior, ecology and distribution of the vertebrates of California. (2 hours lecture, 6 hours laboratory or fieldwork; one or more weekend trips per semester required)

475 Ichthyology (4)

Prerequisites: a year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates, or consent of instructor. The biology, structure, physiology, ecology, evolution and economic importance of fishes. Laboratory and field work in identification, collection, and natural history of fishes. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

Biological Science

476 Herpetology (4)

Prerequisites: a year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates; or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution, and behavior of amphibians and reptiles. Laboratory and fieldwork in identification, collection, study of amphibians and reptiles including studies on reptile and amphibian behavior and physiology. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

478 Mammalogy (4)

Prerequisites: one year of college biology, comparative vertebrate anatomy, and natural history of the vertebrates; or consent of instructor. The biology, structure, physiology, ecology, distribution, evolution and behavior of mammals. Laboratory and fieldwork in identification collection, and natural history of mammals. (2 hours lecture, 6 hours laboratory or fieldwork per week; one or more weekend trips per semester required)

491 Senior Seminar (1)

Prerequisite: senior standing in one of the sciences with a GPA of 2.8, or consent of instructor. Topics in the biological sciences and related fields, selected by the faculty and students participating in the course.

499 Independent Study (1-3)

Open to qualified undergraduate students by consent of instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

502 Seminar in Biology (3)

Open to graduate students only by consent of instructor. May be repeated for credit.



503 Seminar in Modern Concepts in Biology (3)

Investigation of major integrative themes in biological sciences and explore the ways in which these permeate all levels of biological thought. May be repeated.

505 Seminar in Molecular Biology (3)

Selected advanced topics in molecular biology, such as macromolecular structure, thermodynamics in biological systems and molecular regulation of cellular activities. Open to graduate students and other qualified students by consent of instructor. May be repeated.

510 Seminar in Physiology (3)

Selected topics within the area of physiology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

512 Seminar in Genetics (3)

Selected advanced topics within the general area of genetics. Open to graduate students and to other qualified students only by consent of instructor. May be repeated.

513 Molecular Genetics (4)

Prerequisites: Bio Sci 312, 305 and Chem 301A,B. The organization, replication and function of the genetic material and informational macromolecules in organisms from the viruses to the higher plants and animals. Topics include: chromosomal structure and function, recombination, mutagenesis, genetic coding, protein synthesis and genetic aspects of development. (3 hours lecture, 3 hours laboratory)

514A Medical Hematology (1)

The study of normal and diseased cells. Includes theory and practice in hematological methods. (lecture/laboratory)

514B Medical Biochemistry (2)

The chemistry of the body and body fluids in health and in disease. Includes basic and advanced techniques of biochemical and microscopic analyses. (lecture/laboratory)

514C Blood Bank and Immunology (1)

Blood bank and pretransfusion procedures and problems; serological diagnosis. (lecture/laboratory)

514D Medical Bacteriology (1)

The pathogenesis, diagnosis, and control of bacterial diseases. Includes the isolation and identification of pathogenic bacteria. (lecture/laboratory)

514E Medical Mycology and Parasitology (1)

The pathogenesis and control of fungus and parasitic diseases. Includes procedures for the identification of fungi and parasites. (lecture/laboratory)

517 Seminar in Ecology (3)

Selected advanced topics within the general area of ecology. Open to graduate students and to other qualified students only by consent of instructor. May be repeated.

518 Seminar in Marine Science (3)

Selected advanced topics within the general area of marine science. Open to graduate students and to other qualified students only by consent of instructor. May be repeated.

Biological Science

520 Seminar in Microbiology (3)

Selected topics in the area of microbiology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

524 Seminar in Immunology (3)

Selected topics in immunochemistry, immunobiology and medical immunology. Open to graduate students and other qualified students by consent of instructor. May be repeated.

540 Seminar in Botany (3)

Selected advanced topics within the general area of botany. Open to graduate students and to other qualified students by consent of the instructor. May be repeated.

560 Seminar in Zoology (3)

Selected advanced topics within the general area of zoology. Open to graduate students and to other qualified students by consent of the instructor. May be repeated.

598 Thesis (1-3)

May be repeated for a maximum of 6 units of credit.

599 Independent Graduate Research (1-3)

Open to graduate students only by consent of the instructor with whom the student wishes to pursue independent study in biology. May be repeated for credit.

MEDICAL BIOLOGY COURSES

(See departmental course descriptions for the courses listed below)

Biological Science

423 Pathogenic Microbiology (4)

424 Immunology (4)

426 General Virology (2)

426L General Virology Laboratory (2)

445 Mycology (4)

462 Parasitology (4)

468 Comparative Animal Physiology (4)

514A,B,C,D,E Medical Biology (6)

560 Seminar in Zoology (Hematology) (3)

598 Thesis (3)

599 Independent Graduate Research (3)

Chemistry

312 Quantitative Chemistry (4

421A,B General Biochemistry (3,3)

422A,B General Biochemistry Laboratory (2,2)

OCEANOGRAPHY COURSES

(See departmental course descriptions for the courses listed below)

Biological Science

- 325 Marine Biology (4)
- 420 General Oceanography (3)
- 421 Biological Oceanography (4)
- 426 Marine Ecology (4)
- 520 Seminar in Marine Science (3)

Earth Science

- 110 Introduction to Physical Oceanography (3)
- 401 Studies in Geoscience, Geofluids (2-6)

DEPARTMENT OF CHEMISTRY

FACULTY

Andrew F. Montana

Department Chairman

David Bailey, James Baur, Robert Belloli, John Bryden, Fred Dorer, J. Milton Harris, Gene Hiegel, Harvey Janota, William Langworthy*, Frances Mathews, Carl Prenzlow, L. Donald Shields*, Robert Spenger, Carl Wamser, Bruce Weber, Patrick Wegner, W. Van Willis, Dorothy Pan Wong

The Department of Chemistry is on the approved list of the American Chemical Society.

The curriculum is planned to provide thorough instruction in the basic principles and concepts of chemistry for students who will (1) advance to graduate work in chemistry or biochemistry; (2) teach in the science programs of secondary schools; (3) seek employment in industry or government; (4) advance to medical or dental training or (5) pursue a chemistry minor in support of other science majors such as physics or biology.

To qualify for a baccalaureate degree in chemistry, students must have a C average in all courses required for the majors including those in the related sciences. A reading proficiency in one modern foreign language (Russian, German, French) is required. This requirement may be met by taking either four semesters of college foreign language or a course in scientific French, German, or Russian. Under unusual circumstances the requirement may be met by examination upon approval by the department chairman. Examinations will be given in October and March of each academic year. For details of examination procedure, apply at the department office. A reading comprehension of a second modern foreign language is recommended for students planning graduate study leading to the Ph.D. degree.

No credit toward the major will be allowed for specific major courses in which a grade D is obtained.

BACHELOR OF ARTS IN CHEMISTRY

The basic chemistry curriculum contains the minimum requirements for a B.A. in Chemistry and is suitable for those students who are candidates for professional schools as medicine, dentistry, etc. and secondary education. Chemistry majors intending to work in chemical industry or continue with graduate work in chemistry would generally take 6-10 additional units of upper division chemistry electives. Students may elect a curriculum based upon the recommendations of the Committee for Professional Training of Chemists of the American Chemical Society and upon completion of this program receive a Certificate of the American Chemical Society. This curriculum is the basic curriculum plus Instrumental Analysis (Chem 411) and at least one upper division chemistry elective.

Chemistry students interested in biochemistry may elect the biochemistry emphasis. This program differs from the basic chemistry curriculum and may be the chemistry program selected by those students who are candidates for professional schools in medicine, dentistry, etc. and graduate school in biochemistry or molecular biology.

The chemistry curricula have been designed to give the student a full understanding of the fundamental areas of chemistry and still allow him to tailor his program to his interests and goals. The student is urged to consult regularly with the chemistry faculty about his program.

^{*} College administrative officer.

Basic Chemistry Curriculum 1 Units Units Required Courses in Chemistry General Chemistry (101A,B) 10 Organic Chemistry (305A,B)___ 10 Quantitative Chemistry (312).... Physical Chemistry (371A,B) Inorganic Chemistry (425)2 Physical Chemistry Lab (441)² Senior Research (495 or 499)² Total Units . Related areas Physics (225A,B,C, 226B,C)2 ... 11 Mathematics (150A,B, 250)_____ Biology . Total Units Total units in science and mathematics General education units, not including 13 units of physical science, mathematics (see general education requirements, page 74) Elective Units 8 25 124 Total units for the B.A. in Chemistry... Chemistry Curriculum with a Biochemistry Emphasis 1 Required Courses in Chemistry General Chemistry (101A,B) Organic Chemistry (305A,B) 10 10 Quantitative Chemistry (312)_ 6 Physical Chemistry (371A,B) Biochemistry (421A,B, 422A,B).... 10 2 Senior Research (495 or 499)_ 42 Total units Related areas (satisfies the general education requirement in natural science and mathematics) 11 Physics (225A,B,C, 226B,C)5 12 Mathematics (150A,B, 250) 12 Biology 6 35 Total units Total units in science and mathematics... General education units, not including 13 units of science and mathe-32 matics 15 Elective units Total units for the B.A. in Chemistry with biochemistry emphasis 124

Notes:

Under unusual circumstances and with the approval of the department chairman, particularly when a student decides to become a chemistry major in his sophomore or junior year, the minimum requirements for a chemistry degree can differ from the above.

² Requirements differ for the biochemistry emphasis.
³ Generally includes 6–10 units of upper division chemistry units. In some cases, a student may substitute biology, mathematics, or physics courses from an approved list for these upper

division electives.

Students who are candidates for professional schools as medicine, dentistry, etc., or graduate school in biology may substitute Chemistry 301A,B, 302A,B (8 units). This substitution is not preferable for students who are candidates for graduate school in chemistry or biochemistry.

Students who are candidates for professional schools such as medicine, dentistry, etc., or graduate school in biology may substitute Physics 211A,B, 212A,B (8 units). This substitution is not preferable for students who are candidates for graduate school in chemistry or biochemistry.
 Includes 4 units of lower division biology and 8 units of upper division biology or related areas as approved by adviser.

MINOR IN CHEMISTRY

A minimum of 24 acceptable units of chemistry, including 14 units of upper division chemistry courses, excluding Independent Study, are required for a chemistry minor.

Suggested Eight Semes	ter Pro	gram for a Major in Chemistry	
First Semester (Freshman)		Second Semester (Freshman)	
0.7	Units		Units
Chem 101A Gen Chem	5	Chem 101B Gen Chem	5
Math 150A Anal Geo and Calc		Math 150B Anal Geo and Calc	4
Eng 101 Composition and Lit	3	Physics 225A Fund Physics	4
Gen education courses		Eng 102 Lit and Composition	3
	-		-
and the second second second	16	the will (1) edeaned to graditional	15
Third Semester (Sophomore)		Fourth Semester (Sophomore)	
Chem 305A Org Chem	5	Chem 305B Org Chem	5
Math 250 Inter Calc		Math 281 Lin Alg Dif Eq	3
Physics 225B, 226B Fund Physics	4	Physics 225C, 226C Fund Physics	4
Gen education courses		Bio Sci	4
	-		-
	16		16
Fifth Semester (Junior)		Sixth Semester (Junior)	
Chem 371A Physical Chem	3	Chem 371B Physical Chem	3
Chem 312 Quant Chem		Chem 441 Phys Chem Lab	3
General education courses	9	General education courses	
	_	Electives	3
	16		-
			15
Seventh Semester (Senior)		Eighth Semester (Senior)	
Chem (495 or 499)	2	Chem 411 Instr Anal	4
Chem 425 Inorg Chem	3	Chem 495 (or 499)	2
Electives	11	Electives 8-	-10
	16	TA THE PARTY OF TH	-16
	10	17	-10

Listed below are possible electives which would be available to the upper division student:

Chem 403 Anal of Org Cmpds
Chem 421A, B Gen Biochem
Chem 422A, B Gen Biochem Lab
Chem 427 Prep Techniques
Chem 431 Adv Org
Chem 451 Ouantum Chem

Graduate chemistry courses Approved biology courses Approved mathematics courses Approved physics courses

Suggested Eight Semester Program for a Major in Chemistry with a Biochemistry Emphasis

First Semester (Freshman)	Second Semester (Freshman)
Units	Units
Chem 101A Gen Chem 5 Math 150A Anal Geo and Calc. 4 Eng 101 Composition and Lit. 3 Biology 4-5	Chem 101B Gen Chem 5 Math 150B Anal Geo and Calc 4 Physics 225A Fund Physics 4 Eng 102 Lit and Composition 3
16–17	15
Third Semester (Sophomore)	Fourth Semester (Sophomore)
Chem 305A Org Chem 5 Math 250 Inter Calc 4 Physics 225B, 226B Fund Physics 4 General education courses 3	Chem 305B Org Chem 5 Physics 225C, 226C Fund Physics 4 Bio Sci 3-4 General education courses 3
16	15–16
Fifth Semester (Junior)	Sixth Semester (Junior)
Chem 371A Physical Chem 3 Chem 312 Quant Chem 4 General education courses 9	Chem 371B Physical Chem 3 Biology 3 General education courses 9
16	15
Seventh Semester (Senior) Chem 421A, 422A Gen Biochem 5 General education courses 4 Electives 6	Eighth Semester (Senior) Chem 421B, 422B Gen Biochem 5 Chem 495 (or Chem 499) 2 General education courses 9

MASTER OF ARTS IN CHEMISTRY

The Master of Arts in Chemistry is designed to qualify students for more advanced work in chemistry, to provide preparation which will lead to responsible positions in industrial or government research and development laboratories, and to provide preparation for the effective teaching of chemistry in the high schools and junior colleges.

The program provides fundamental courses at a level and depth commensurate with those taken during the first year of a doctoral program and provides an in-

troduction to research and research methods.

Prerequisites

Students to be admitted to the program must:

 Meet the general prerequisites for graduate work formulated and recommended by the college.

2. Have a baccalaureate degree from an accredited institution.

3. Have an undergraduate major in chemistry with a grade-point average of 3.0 or better in chemistry courses taken, and a 2.5 GPA in all other previous college work.

4. Have had enough specialized elective courses in chemistry to give a minimum of 24 units of upper division chemistry, including at least one course which

has three years of chemistry as a prerequisite.

The major in chemistry should have included in the undergraduate program a year-course in each of the following fields: general chemistry, analytical chemistry, organic chemistry, and physical chemistry. The course in physical chemistry should have included laboratory work.

299

Chemistry

Orientation examinations, administered by the department, are required of all students entering the program. The results of these examinations will be used to advise the student in developing his study plan. A student may be classified with certain subject deficiencies, but such deficiencies must be removed by completion of committee-approved courses with at least a B average before the student may be advanced to candidacy. Proficiency in reading chemical literature in one approved foreign language (e.g., German, French or Russian) must be demonstrated before advancement to candidacy.

Program of Study

The degree program consists of 30 units of committee-approved course work completed with a minimum grade-point average of 3.0, including at least 15 units of 500-level chemistry courses.

The following courses are required of all students in the program:

	Uon courses 3 General education courses	nits
Chem 550	Advanced Physical Chemistry	4
Chem 505	Seminar in Chemistry	2
Chem 599	Independent Graduate Research	3 (minimum)
Chem 598	Thesis1	1-2

Elective courses, to be taken with the approval of the adviser, must include a minimum of six units outside the student's area of specialization and a minimum of nine units (in addition to the minimum of three units of Chem 599, as above) in one of the following areas of specialization, including related areas as approved by the committee.

- 1. Analytical chemistry
- 2. Biochemistry
- 3. Inorganic chemistry
- 4. Organic chemistry
- 5. Physical chemistry

For further details or advisement, please refer to the Graduate Coordinator of the Chemistry Department.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

CHEMISTRY COURSES

100 Introductory Chemistry (4)

Prerequisite: one year of high school algebra. Fundamental principles of chemistry with emphasis placed on the chemistry of inorganic compounds. Does not apply as credit for majors in the physical or biological sciences or for minors in the physical sciences. (3 hours lecture, 3 hours laboratory)

101A,B General Chemistry (5,5)

Prerequisites: high school algebra and either high school chemistry or high school physics or Chemistry 100. High school physics and trigonometry strongly recommended. Intended for majors and minors in the physical and biological sciences.

- A—The fundamental principles of chemistry including stoichiometry, gas laws, solid and liquid states, changes of state, modern atom concepts, chemical bonding and chemical equilibrium with emphasis on quantitative acid-base chemistry. Laboratory: experiments applying elementary physical chemistry and volumetric quantitative analysis. (3 hours lecture discussion, 6 hours laboratory)
- **B**—Oxidation-reduction chemistry, introduction to chemical thermodynamics and chemical kinetics, discussions of the chemistry of representative and transition elements, and introductions to biochemistry, organic and nuclear chemistry. Laboratory: Experiments concerning gravimetric and volumetric quantitative analysis, selected topics in qualitative analysis and inorganic preparations. (3 hours lecture discussion, 6 hours laboratory)

105 General Chemistry for Engineers (3)

Prerequisite: Chemistry 101A. Description the same as Chemistry 101B. Open only to engineering majors. Not open to students with credit in Chemistry 101B.

201 Modern Physical Science (4)

(See course description under Physical Science)

205 Glassblowing (1)

Elementary training in the manipulation of glass leading to the construction of scientific glass apparatus. Enrollment limited with preference given to junior and senior physical science majors. (4 hours laboratory)

301A,B Organic Chemistry (3,3)

Prerequisite: Chemistry 101B or equivalent. Chemistry 301B must involve concurrent enrollment in Chemistry 302B. A course in organic chemistry designed for the non-chemistry major. Emphasis is placed on modern theories of structure and reaction mechanism. Recommended for biology majors and students planning to enter a paramedical profession.

302A,B Organic Chemistry Laboratory (1,1 or 2)

Chemistry 302A may be taken concurrently with Chemistry 301B and 302B. Chemistry 302B must be taken concurrently with Chemistry 301B. A course designed to give training in the basic techniques of the organic chemistry laboratory, including synthesis of typical aliphatic and aromatic compounds. (3 hours laboratory) Chemistry 302A, B may be taken concurrently (6 hours laboratory) with 301B.

305A,B Organic Chemistry (5,5)

Prerequisite: Chemistry 101B or equivalent. A comprehensive course in organic chemistry designed for the chemistry major. Emphasis in lecture and laboratory is placed upon modern theories of structure and reaction mechanism with applications of modern instrumental and spectroscopic methods. (3 hours lecture discussion, 6 hours laboratory)

312 Quantitative Chemistry (4)

Prerequisites: Chemistry 101A,B (grade C or better) and at least one semester of organic chemistry lecture and lab. Physics 211A,B or Physics 221A,B strongly recommended. Modern analytical chemistry including contemporary separation methods, nonaqueous quantitative chemistry, and introductions to instrumental methods of analysis in electrochemistry, absorption spectroscopy, and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

351 Introduction to Biochemistry (4)

Prerequisites: Chemistry 301B and five units of biology. A survey of the chemistry and metabolism or proteins, carbohydrates, lipids, hormones, in plants, animals, and microorganisms. (3 hours lecture discussion, 3 hours laboratory)

371A,B Physical Chemistry (3,3)

Prerequisites: Mathematics 250, one year of Physics and Chemistry 101B. Chemistry 312 recommended. Equivalent courses may be substituted. A study of the fundamental laws and theories of chemistry. Thermodynamics, solutions, chemical and phase equilibria, electrochemistry, transport phenomena, introduction to atomic and molecular structure, rotation and vibration spectroscopy, statistical mechanics, kinetics are the major topics discussed. Discussions with emphasis on the use of fundamental principles to solve problems.

403 Analysis of Organic Compounds (4)

Prerequisites: Chemistry 305A,B and 312 or equivalents. Isolation and identification of organic compounds using chemical and instrumental techniques. (2 hours lecture discussion, 6 hours laboratory)

411 Instrumental Analysis (4)

Prerequisites: Chemistry 312, 301A,B, 371A,B and one year of college physics. Advanced topics in absorption and emission spectroscopy, nuclear magnetic resonance, electron spin resonance, mass spectrometry, gas chromatography, X-ray methods, electrochemistry and radiochemistry. (2 hours lecture discussion, 6 hours laboratory)

421A,B General Biochemistry (3,3)

Prerequisite: Chemistry 301B or equivalent. Survey of major areas of biochemistry, including chemistry and functions of compounds of biochemical interest.

422A,B General Biochemistry Laboratory (2,2)

Prerequisites: concurrent or prior enrollment in Chemistry 421A,B. Laboratory designed to illustrate the chemistry and metabolism of carbohydrates, lipids, and proteins, and to introduce the student to research methods. (6 hours laboratory)

425 Inorganic Chemistry (3)

Prerequisites: Chemistry 101A,B or equivalent and Chemistry 301A,B and 371A,B. A comprehensive inorganic chemistry course with an introduction to modern theories of chemical bonding and structure. Theoretical treatments include molecular orbital and ligand field theory with their extensions, coordination and transition metal chemistry, various aspects of nonmetal chemistry and a discussion of hydride properties.

427 Preparative Techniques (4)

Prerequisites: Chemistry 312, 301A,B and 425 (concurrent enrollment acceptable) or equivalents. Laboratory exercises using advanced techniques and modern methods for the preparation and identification of chemical compounds. Readings in the current literature required.

431 Advanced Organic Chemistry (3)

Prerequisites: Chemistry 301A,B, 371A and 371B. Theoretical aspects of organic chemistry with emphasis on the modern concepts of structure and chemical reactivity.

441 Physical Chemistry Laboratory (3)

Prerequisite: Chemistry 371A,B. Laboratory exercises illustrating the physical principles of chemistry. (1 hour lecture discussion, 6 hours laboratory)

451 Quantum Chemistry (3)

Prerequisite: Chemistry 371A,B. An introduction to the application of quantum mechanics. Postulates and theories approximation methods, the electronic structure of atoms and periodic system, molecules and the chemical bond, and introduction to group theory.

495 Senior Research (1-3)

Prerequisites: three one-year courses in chemistry and senior standing. Must have consent of supervising instructor before enrollment. Open only to students with a 3.0 grade point average in chemistry. An introduction to the methods of chemical research through a research project carried out under the supervision of one of the Chemistry Department faculty. May be repeated for credit.

499 Independent Study (1-3)

Prerequisites: upper division standing and completion of two one-year courses in chemistry. Study of some special topic in chemistry, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

500 Research in Chemistry (1-6)

Prerequisites: admission to graduate standing and consent of supervising instructor before enrollment. Research in one of the fields of chemistry on an individual basis under the supervision of an appropriate faculty member.

505 Seminar (1-2)

Prerequisites: graduate standing and consent of department. Student presentations of recent contributions to the chemical literature. May be repeated for credit.

511 Theory of Separations (2)

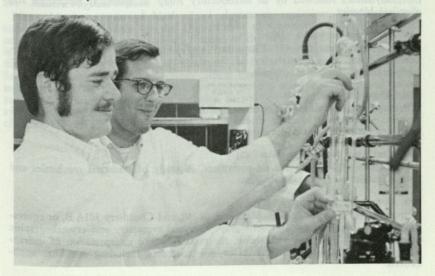
Prerequisites: Chemistry 312, 301A,B, 371A,B. The theory, application, and limitations of physical and chemical separation techniques.

512 Electroanalytical Chemistry (4)

Prerequisites: Chemistry 312, 301A,B and 371A,B. Advanced topics in potentiometry, amperometry, electroanalysis, coulometry, conductometry, polarography, single and multiple sweep voltammetry, chronopotentiometry and chronoamperometry.

525 Radiochemistry (4)

Prerequisite: Chemistry 371A,B. Introduction to the theory of nuclear properties and phenomena; their detection and measurement; application of their technology to chemical experimentation.



528 Coordination Chemistry (3)

Prerequisite: Chemistry 425 or equivalent. A concise treatment of the structure and bonding in coordination compounds according to crystal field, molecular orbital, and ligand field theories is included, as well as preparative methods and a survey of ligand substitution kinetics. The theoretical models will be related to spectral, thermodynamic, kinetic and redox properties. Biochemical and industrial uses of coordination compounds will be discussed.

531 Theoretical Organic Chemistry (3)

Prerequisites: Chemistry 431 and 550. The application of theoretical concepts to current topics of physical organic chemistry research.

535 Organic Synthesis (3)

Prerequisites: Chemistry 301A,B or 305A,B and 371A,B (concurrent enrollment acceptable). Methods of synthetic organic chemistry and their application to construction of organic molecules. Recent developments covered.

539 Chemistry of Natural Products (3)

Prerequisite: Chemistry 301B. Selected topics from the chemistry of the alkaloids, terpenes, steroids and a variety of other natural products of plant and animal origin. Discussions included on the classification, structure elucidation, synthesis, biosynthesis and physiological activity of these compounds.

541 Enzyme Chemistry (3)

Prerequisite: Chemistry 421B or consent of instructor. Discussion of the structure and chemical modification of enzymes and mechanisms and kinetics of enzyme catalyzed reactions.

542 Intermediary Metabolism (3)

Prerequisite: Chemistry 421B or consent of instructor. A discussion of metabolic and biosynthetic pathways and physiological control mechanisms.

550 Advanced Physical Chemistry (4)

Prerequisite: Chemistry 371A,B or equivalent. An advanced study of classical thermodynamics followed by an introductory study of statistical mechanics and chemical kinetics.

551 Quantum Mechanics (3)

Prerequisite: Chemistry 451. Elementary applications. Perturbation theory, collision problems, relativistic theory of the electron, theories of valence, complex compounds and complex crystals.

555 Chemical Kinetics (3)

Prerequisite: Chemistry 550 or consent of instructor. Analysis of reacting systems; theories of chemical kinetics; discussion of gas phase, liquid phase and surface reactions including recent developments.

561 Statistical Thermodynamics (3)

Prerequisite: Chemistry 550 or equivalent. A study of statistical mechanics and its application to chemical problems.

572 X-Ray Crystallography (3)

Prerequisites: Physics 221A,B, Mathematics 250, and Chemistry 301A,B, or equivalent courses. Morphological crystallography, crystal symmetry and crystallographic groups, X-rays and X-ray diffraction, the recording and interpretation of diffraction phenomena, and the analysis of crystal structures, including computer applications.

575 Theory of Spectroscopy (3)

Prerequisite: Chemistry 451 or equivalent. Group theory, symmetry mode, intensities and selection rules, selected topics from electronic spectra of atoms and molecules, UV, IR, NMR, ESR and Raman spectroscopy.

580 Topics in Advanced Chemistry (1-6)

Prerequisite: graduate standing in chemistry. Selected areas of current research interest in chemistry will be discussed. May be repeated for credit.

598 Thesis (1-2)

Prerequisites: an officially appointed thesis committee and advancement to candidacy. Guidance in the preparation of a project or thesis for the master's degree.

599 Independent Graduate Research (1-3)

Prerequisite: graduate standing in chemistry. May be repeated for credit.

PHYSICAL SCIENCE COURSES

(Offered by the Departments of Chemistry and Physics)

100 Man and His Physical Environment (4)

A course specifically designed to meet the needs of non-science majors. It traces some of man's scientific and technological activities which have resulted in major modification of his environment. Key elements will be examined with a view towards predicting trends and suggesting alternatives which may improve the environment. Treated will be topics such as: transportation; energy conversion; food production; population; resources, renewable and nonrenewable; waste disposal; pollution. Particular emphasis will be given to those problems which threaten man's survival. Credit will not be given to students who have had a college course in chemistry or physics.

201 Modern Physical Science (4)

Prerequisite: one year of high school algebra or equivalent, or consent of instructor. Taught jointly by the Departments of Chemistry and Physics, this course presents the essential unifying features of the basic physical sciences, chemistry, chemistry and physics; the modern concepts of the physical and chemical theory of atomic and molecular structure form the unifying course material. Selected physical and chemical theory (from the fields of mechanics, electricity and magnetism, light, kinetic theory, thermodynamics, quantum theory, and inorganic and organic chemistry) are included to provide the necessary background material. Credit will not be given to students who have had a college course in chemistry or physics.

DEPARTMENT OF COMMUNICATIONS

FACULTY

J. William Maxwell

Department Chairman

James Alexander, Fenton Calhoun, Raynolds Johnson, Martin Klein, Mary Koehler, John Lawrence, George Mastroianni, Wayne Overbeck, Marvin Rosen, Ted Smythe

The program leading to the Bachelor of Arts in Communications emphasizes study of broad principles of communications, functions of the mass media in a democratic society, and theories relevant to informing, instructing, and persuading through communications media. It may serve as preparation for graduate and professional schools, careers in business, industry, government, education, and mass media.

The department offers a major in communications with emphases in advertising, journalism, photocommunication, public relations, technical communication, and telecommunication. A combined emphasis designed to meet the needs and interests of individual students may also be arranged.

A Master of Arts program in Communications provides advanced study in communications and related disciplines for those seeking professional careers in teach-

ing, research and development, and mass media.

Engl 303 The Structure of Modern English.

Mktg 351 Principles of Marketing

Programs in the department are designed to provide both theory and practice in the use of print, broadcast and film media of communication to inform, instruct, and persuade.

BACHELOR OF ARTS IN COMMUNICATIONS

Every student must take 21 units of core courses and a minimum of 15 units in one of the emphases offered by the department. Additionally, the student must complete 12 units of collateral courses specified for the emphasis selected, although some flexibility may be permitted upon advisement. The major totals 48 units.

	COMMUNICATIONS CORE Units
Com 101	Communications Writing3
Com 102	Communications Writing3
Com 333	Mass Communication in Modern Society
Com 407	Communication and the Law3
Com 425	History and Philosophy of American Mass Communication 3
and two of	the following:
Com 410	Principles of Communication Research 3
Com 426	World Communication Systems
Com 427	Current Issues in Mass Communication 3

EMPHASES FOR COMMUNICATIONS MAJORS

Every communications major must select an area of emphasis and complete the courses in it.

Advertisi	ng
Emphasis Requirements	Unit
Com 218A Introduction to Photography	2
Com 353 Advertising Copy and Layout	3
Com 354 Retail Advertising	
Com 356 Advertising Production (1,1)	2
Com 439 Mass Media Internship	2
Com 451 National Advertising Campaign	s 3
Collateral Requirements	
Art 103 Two-dimensional Design	3

3

306

Phil 310 Ethics

Communications

Journalism	and a second
Emphasis Requirements	Unit
Com 218A Introduction to Photography	_ 2
Com 218B Communications Photography	_ 2
Com 332 Copy Editing and Makeup	- 3
Com 335 Reporting of Public Affairs Com 338 Newspaper Production	- 3
Com 439 Mass Media Internship	_ 2
WSA B; have a remor apparent by the Community William States Allie of	
Collateral Requirements	
Soc 341 Social Interaction Engl 462 Modern British and American Novels	- 3
Hist 476 Age of Power, Affluence and Anxiety Since 1945	_ 3
and one of the following:	
Pol Sci 300 Contemporary Issues in California Government and Politics Pol Sci 413 Pressure Groups and Public Opinion	_ 3
Photocommunication	
Emphasis Requirements	
Com 218A Introduction to Photography	_ 2
Com 218B Communications Photography Com 306 Photographic Production	_ 2
Com 306 Photographic Production	_ 2
Com 311 Introduction to Motion Picture Production	3
Com 358A Publications Production	2
Com 439 Mass Media Internship	_ 3
Collateral Requirements	
Pol Sci 300 Contemporary Issues in California Government and Politics.	_ 3
Amer Stu 301 The American Character	3
Art 338A Creative Photography	3
Geo 365 Conservation of the American Environment	3
Public Relations	
Inchesis Remissioners	
Com 218A Introduction to Photography	2
Com 361 Theory and Principles of Public Relations	3
Com 439 Mass Media Internship	2
Com 463 Public Relations Methods	3
Com 465 International Public Relations	_ 3
and one of the following:	
Com 338 Newspaper Production	3
Com 358A Publications Production	_ 2
Art 103 Two-dimensional Design	3
Engl 334 Shakespeare	3
Spch 334 Persuasive Speaking	3
Pol Sci 413 Pressure Groups and Public Opinion	5

Communications

* Technical Communication	
Emphasis Requirements	Units
Com 332 Copy Editing and Makeup Com 334 Feature Article Writing Com 401 Report Writing Com 403 Technical Writing Com 404 Advanced Specialized Writing and Editing Techniques	3 3
Collateral Requirements Phys 211A Elementary Physics Phys 211B Elementary Physics QM 361 Business and Economic Statistics QM 364 Computer Logic and Programming	3
† Telecommunication	
Emphasis Requirements	
Com 371 Radio-Television News and Public Affairs Com 380 Introduction to Radio and Television Com 390 Introduction to Telecommunications Production Com 439 Mass Media Internship Com 475 Telecommunications Programming	3 3
Collateral Requirements	
Engl 322 American Literature from Twain to the Moderns Soc 341 Social Interaction Pol Sci 410 Political Parties Hist 476 Age of Power, Affluence and Anxiety Since 1945	3 3

Combined Emphasis

Students whose interests involve more than one emphasis may seek approval of a combined emphasis. Minimum requirements for the combined emphasis are the as the combined emphasis. Minimum requirements for the combined emphasis are tast 12 of which will be in upper division courses; 12 additional units of collateral course work in other departments; and approval of the combined emphasis plan in advance by the Department of Communications.

MINOR IN COMMUNICATIONS

Twenty-one units approved by the department are required for a minor in communications. The following is a recommended minor sequence emphasizing writing and publication courses.

Lower Division (maximum of 7 units)	Units
Com 101 or 102 Communications Writing	3
Com 218A Introduction to Photography	
Com 218B Communications Photography	2
Upper Division (minimum of 14 units)	
Com 331 Analyzing News Communication	
Com 333 Mass Communication in Modern Society	3
Com 338 Newspaper Production Com 358A Publications Production	3
Com 425 History and Philosophy of American Mass Communication	3

^{*} Required collateral units may exceed 12 for this emphasis to include additional mathematics and science. In such cases, variations in the core requirements will be arranged through advisement so that the major will not exceed 48 units. † Telecommunication students who wish to emphasize film in broadcasting should take Com 290, 311, 375, 411 and 439.

TEACHER CREDENTIAL REQUIREMENTS

The Department of Communications offers major and minor programs approved as academic by the State Board of Education for those seeking an elementary or secondary teaching credential. For advisement, consult the Department of Communications.

Secondary

Communications majors who are secondary teacher candidates should complete the communications core and journalism emphasis, including Communications 358A,B; have a minor approved by the Communications Department chairman; and fulfill professional education course requirements beyond those of the major and minor. (See "Journalism Education," page 315)

Elementary and Intermediate

The program of courses for elementary and intermediate teachers follows.

Emphasis R	equirements Units
Com 331	Analyzing News Communication3
	Mass Communication in Modern Society
Com 361	Theory and Practice of Public Relations3
	The Documentary Film3
Com 380	Introduction to Radio and Television3
Com 425	History and Philosophy of American Mass Communication 3
	World Communication Systems 3
	units from appropriate communications courses in consultation

with adviser (may include a project, Com 499, for three units).

Collateral Requirements

Engl 303 Structure of Modern English Elect nine additional units from appropriate courses in consultation with adviser.

MASTER OF ARTS IN COMMUNICATIONS

The Master of Arts in Communications is designed to provide advanced study in communications and related disciplines and to develop a research emphasis or option related to the processes and effects of communications. These options are: advertising, journalism education, news, photocommunication, public relations, technical communication, or telecommunication.

Students completing the Master of Arts in Communications with an emphasis in journalism education research are eligible for journalism teaching positions in

high school or community college.

Prerequisites

Students must possess a baccalaureate degree and have completed a basic core of courses in communications as prerequisites to the M.A. program. Before admission to classified graduate status, students must achieve satisfactory scores on the Graduate Record Examination Aptitude Test.

Program of Study

Students are required to complete 30 units of approved study, including 18 units in graduate level communications courses and six units in related studies. Six of the 18 units of graduate-level courses are applicable to the thesis or project requirement. In addition, students must satisfy a "collateral field requirement" in a related discipline.

For further information, consult the Department of Communications. See also

"The Program of Master's Degrees," page 77 and the Graduate Bulletin.

COMMUNICATIONS COURSES

101 Communications Writing (3)

An introductory course covering principles of reporting and writing, with emphasis on content organization, conciseness, and clarity. Typing ability required.

102 Communications Writing (3)

Prerequisite: Communications 101 or consent of instructor. Concentration on reporting and writing of more advanced material. Typing ability required.

103 Applied Writing (3)

Principles and practice in organizing and preparing letters, reports, documents, and proposals required in most occupations. Designed especially for non-communications majors.

218A Introduction to Photography (2)

Introduction to photographic theory and the application of photographic principles. Students are encouraged to provide their own adjustable cameras. (1 hour lecture, 3 hours laboratory)

218B Communications Photography (2)

Prerequisite: Communications 218A or consent of instructor. Application of photographic principles to the requirements of mass communications. Students are encouraged to provide their own adjustable cameras. (1 hour lecture, 3 hours laboratory)

290 History and Aesthetics of Motion Pictures (3)

(Same as Theatre 290)

301 Writing for Telecommunication (3)

Prerequisites: Communications 380 (or concurrent enrollment) and Communications 101. An introduction to theory and principles of writing employed in the broadcast and film media.

303 Business Communications (3)

Design and implementation of communications systems for various business enterprises. Utilizes graphic analysis and analytical techniques. Includes practice in producing messages and channeling them to avoid ambiguities.

306 Photographic Production (2)

Prerequisites: Communications 218A and 218B, or consent of instructor. Production of photographs for college publications and television programs. Application of photocommunication principles to media problems under deadline conditions. (1 hour lecture, 3 hours laboratory)

311 Introduction to Motion Picture Production (3)

Prerequisite: Communications 218A. Introduction to theory and practice of motion picture photography and film production. (2 hours lecture, 3 hours laboratory)

331 Analyzing News Communications (3)

Analyzing news and other informational materials to assess their influence on the public, especially children. Oriented to teachers and teacher candidates, particularly those at the intermediate or elementary level.

332 Copy Editing and Makeup (3)

Prerequisites: Communications 101 and 102, or consent of instructor. Practice and theory of editing informational materials for publication in newspapers and magazines. (6 hours activity)

333 Mass Communication in Modern Society (3)

Basic structure and interrelationships of newspapers, magazines, films, radio, and television, in terms of their significance as social instruments and economic entities in modern society.

334 Feature Article Writing (3)

Nonfiction writing for newspapers and magazines, including study of sources, methods and markets. Open to non-majors.

335 Reporting of Public Affairs (3)

Prerequisites: Communications 101 and 102, or consent of instructor. Coverage in depth of significant events pertinent to operations of governmental units and related organizations.

338 Newspaper Production (3)

Prerequisite: consent of instructor. A lecture and activity course in which members of the class constitute the editorial staff of the college newspaper. The group meets four hours per week for critiques in news reporting, writing, editing, and makeup, followed by production. With consent of instructor, the course may be repeated for a maximum of nine units of credit. (More than 9 hours laboratory)

353 Advertising Copy and Layout (3)

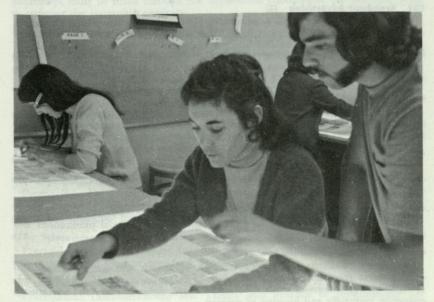
Writing of copy and layout of advertisements, based on study of sales appeals, attention factors and illustrations. (6 hours activity)

354 Retail Advertising (3)

Principles and procedures of retail advertising; utilization of mass media; supervised field assignments in the analysis of specific advertising needs.

356 Advertising Production (1)

Preparation of advertisements for the college newspaper and magazine. Advertising accounts assigned to each student. Weekly critique sessions. Individual consultation with instructor. (5 hours laboratory)



Communications

358A Publications Production (2)

A production class for development of student publications, including the college magazine, authorized by appropriate college authorities. Activities include writing articles, editing copy, taking photographs and preparing layouts, supplemented by explanatory lectures. (More than 6 hours laboratory)

358B Publications Production (2)

Prerequisite: Communications 358A, taken during or following the 1970-71 academic year, or consent of the instructor. A production class for advanced students meeting concurrently with Communications 358A for preparation of the college magazine and other publications authorized by appropriate college authorities. (More than 6 hours laboratory)

361 Theory and Principles of Public Relations (3)

Examination of the social, psychological, philosophical, economic and political foundations of public relations, as well as the theories and principles of public relations as a communications discipline.

371 Radio-Television News and Public Affairs (3)

Prerequisites: Communications 101, Communications 102 (or concurrent enrollment), and Communications 380 (or concurrent enrollment). Theory and practice of covering news events and public affairs for radio and television. Student material will be prepared for local broadcast. (6 hours activity)

375 The Documentary Film (3)

Purpose, development, current trends, critical analysis and production requirements of the documentary film. Future of the medium in business, government, education and television. Student material will be prepared for production in laboratory sessions.

380 Introduction to Radio and Television (3)

(Same as Theatre 380)

381 Broadcast Advertising (3)

Study of television and radio as advertising media. Planning advertising campaigns, costs, and coverage. (2 hours lecture, 3 hours laboratory)

390 Introduction to Telecommunications Production (3)

Prerequisite: Communications 380. Basic theory and practice of radio and television program production. (2 hours lecture, 3 hours laboratory)

401 Report Writing (3)

Planning, organizing, and writing of reports for business, education and government. Practice will be given in use of graphic aids and preparation of copy for reports that are to be printed. Recommended for non-majors.

403 Technical Writing (3)

Study of uses of technical writing in industry, science and engineering and completion of written assignments designed to test understanding of, and provide experience with, various forms.

404 Advanced Specialized Writing and Editing Techniques (3)

Writing and editing of material for reports, proposals, special publications and journals.

407 Communication and the Law (3)

The Anglo-American concept of freedom of speech and press; statutes and administrative regulations affecting freedom of information and of publishing, advertising and telecommunication. Libel and slander, rights in news and advertising, contempt, copyright and invasion of privacy.

410 Principles of Communication Research (3)

Survey of research methods used to assess the effects of print, broadcast and film communications on audience attitudes, opinions and knowledge. Techniques for developing, using and interpreting various instruments to measure and analyze behavioral responses of audiences.

411 Advanced Motion Picture Production (3)

Prerequisite: Communications 311. Advanced theory, procedures and practice in film production. Motion picture (silent and sound) shooting and editing; sound transfer and mixes; production, distribution, and financing.

425 History and Philosophy of American Mass Communication (3

American mass communication, beginning with newspapers and periodicals and continuing through radio and television. Includes ideological, political, social and economic aspects.

426 World Communication Systems (3)

Major mass communication systems, both democratic and totalitarian, and the means by which news and propaganda are conveyed internationally.

427 Current Issues in Mass Communication (3)

Mass media regulation by the government, "objective" versus "interpretive" news reporting and ethical and legal questions of particular cases.

428 Communications and Social Change (3)

The impact upon contemporary society of American mass media and mass communications.

439 Mass Media Internship (2)

According to his emphasis, the student serves a supervised internship with organizations such as a newspaper or magazine publisher, radio or television station, press association, public relations firm or an advertising agency. Application for internships must be made through the department coordinator one semester prior to entering the internship program.

451 National Advertising Campaigns (3)

Advanced study of advertising campaigns and utilization of mass media—such as television, newspapers, and magazines—in national advertising programs. Design of complete campaign.

463 Public Relations Methods (3)

Prerequisite: Communications 361 or consent of instructor. Techniques used for effective public relations in both personal and mass communications.

465 International Public Relations (3)

Public relations principles applied to international operations, both private and public.

467 Public Relations for Educational Institutions (3)

Prerequisite: Communications 361 or consent of instructor. Theory and practice of public relations applied to public and private schools. Methods, policies, programs and problems inherent in educational public relations.

473 Telecommunications Regulation (3)

Prerequisite: Communications 380. Self-regulation, governmental regulation and international regulation of broadcast programming.

475 Telecommunications Programming (3)

Prerequisite: Communications 380. Theory and practice of programming for television and radio.

Communications

477 Telecommunications Station Management (3)

Prerequisite: Communications 380. Management functions and policies of broadcasting stations and networks. Effects of government, public opinion, employee groups and ownership. Technical, legal, financial and other obligations.

479 Advanced Telecommunications Production (3)

Prerequisite: Communications 390 or consent of instructor. Advanced techniques in producing television-radio programs. (2 hours lecture, 3 hours laboratory)

485 Film Production (3) (Formerly 319)

Prerequisites: Communications 311, 375, and 411 or consent of instructor. Fundamentals of film script writing, production planning and execution. (2 hours lecture, 3 hours laboratory)

490 Film Theory (3)

Analytical and comparative study of theories relating to film-making; nature of the film medium.

499 Independent Study (1-3)

Prerequisite: consent of department chairman. Individually supervised mass media projects and research on campus and in the community. May involve newspaper and magazine publishers, radio and television stations and public relations agencies. May be repeated.

500 Theories of Communication (3)

Study of communication processes in terms of source, media, message and audience variables. Effects of communications on audience attitudes, opinions, knowledge and behavior.

501 Literature of Communications (3)

Types, sources and uses of communications literature and application to individual graduate studies.

502 Theories of Instructional Communications (3)

Implications of learning, persuasion and instruction theories for the design of instructional communications. Considers role of human factors in the design of such media as textbooks, programed workbooks, training films and videotapes, recordings, multimedia instructional programs and interactive training systems.

503 Fundamentals of Programed Instructional Communications (3)

Principles of programed instruction applied to achieve training objectives through the use of the media of communication. Includes development and empirical tryout of short programs in print, film, and/or broadcast media utilizing behavioral analysis of typical audiences to assess program effects.

510A Seminar in Communication Research (3)

Prerequisites: Communications 410 or equivalent, Communications 500, and Communications 501 (or concurrent enrollment). Principles of research design and analysis applied to the processes and effects of communications. Considers problems of casual inference, correlation, and measurement in experiments and surveys involving communication variables. Practice in evaluating research reports and in developing small-scale designs.

510B Advanced Seminar in Communication Research (3)

Prerequisite: Communications 510A. Problems in theoretical and applied research in communication. Theory and practice of sampling, measurement, variance control and data analysis in communication experiments and surveys. Application to student research projects.

512 Graduate Seminar in Journalism Education (3)

Study of selected problems in journalism education with emphasis on individual research.

597 Project (3 or 6)

Completion of a creative project in the area of concentration beyond regularly offered coursework.

598 Thesis (3 or 6)

Completion of a thesis in the area of concentration beyond regularly offered coursework.

599 Independent Graduate Research (1-3)

Prerequisite: consent of department chairman. Individually supervised mass media projects or research for graduate students. May be repeated.

JOURNALISM EDUCATION COURSES

442 Teaching Journalism in the Secondary School (2)

Prerequisites: Education 411, 340, admission to teacher education, or consent of instructor. The student without teaching experience must register concurrently in Education 449. Theory and technique of advising school newspaper and yearbook staffs and teaching journalism. Relation of classroom instruction to staff assignments. See page 212 under Secondary Education for description of Standard Teaching Credential program.

499 Independent Study (1-3)

Prerequisite: consent of department chairman. Individually supervised projects relating to journalism education.

749 Student Teaching in Journalism in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.

BACHELOR OF ARTS IN COMPARATIVE LITERATURE

(An Interdisciplinary Program)

The program in comparative literature is an interdisciplinary program directed by the Committee on the Program in Comparative Literature. The committee is responsible for formulating curricular policies, approving courses, and advising students. The chairman of the English Department administers the program, and the courses are taught by faculty from the English Department and other departments whose courses are approved by the committee. The major in comparative literature provides professional competence and personal enrichment for students with an exceptional concern and appreciation for the study of the interrelationships between the languages and literatures of various civilizations. The program offers courses in literary form and content, theory and philosophy, genres and movements, providing insight into the backgrounds of mankind's worldwide culture and literatures. The comparative literature courses are conducted in English and required reading is available in English.

Upper Division Requirements

- (A) 18 units selected from courses listed under comparative literature.
- (B) 3 units from any adviser-approved 400 level course offered by the Foreign Language Department providing it is not taught in translation. This requirement can be met through examination.
- (C) 6 units selected from literature courses listed under English and numbered 300 or above.
- (D) 6 units of anthropology, history, art history, music history, or philosophy approved by the adviser and aimed at enlarging total perspective.
- (E) The remainder of required units selected from any 300 or 400 level literature course in comparative literature, English, French, German, Italian, Russian, or Spanish.

Total: 42 units

Distribution

(A) of these 42 units 15 must span the chronological range of the literary continuum, one in each of the following literary periods:

(1) Classical or Medieval

- (2) Renaissance
- (3) Neoclassical or Baroque

(4) Romantic

- (5) Contemporary (1850-)
- (B) One course in a literary genre

(C) One course in a major figure

It should be noted that (B) and (C) can perform the dual function of also satisfying (A) (i.e., a senior seminar in Hugo would satisfy both the major figure and the Romantic Period requirements).

More detailed information on the comparative literature major can be obtained from the brochure available in the Department of English office. The importance of close consultation with an adviser cannot be stressed enough for comparative literature, since the diversity of language specialties and other factors may necessitate individual tailoring in any given case.

MASTER OF ARTS IN COMPARATIVE LITERATURE

The objectives of the master's degree program in comparative literature are to promote the understanding of other literatures, peoples, and cultures in various historical periods, including the present, and to prepare the student for more

advanced work in comparative literature, leading to the Ph.D. degree. The program also prepares teachers of world literature in the high schools and community colleges and provides a liberal arts background preparation for library studies. In addition to fulfilling all general prerequisites for graduate work established at California State College, Fullerton, the applicant, in order to gain admission to the program, must meet the following criteria:

- 1. Possession of a baccalaureate degree from an accredited institution.
- 2. An undergraduate major in comparative literature, English, or foreign language, with a GPA of 3.0 or better in the major courses and a GPA of 2.5 in all other college work. If the student's degree is in another field, he must have completed a total of 24 units of upper division work in comparative literature, English, or foreign language, with a GPA of 3.0.
- Satisfactory completion of a written examination in an approved foreign language, or satisfactory completion of an upper division course taught in an approved foreign language.

Requirements

30 units of coursework completed with a minimum GPA of 3.0, to be distributed as follows:

1)	A minimum of 18 units in 500-series courses: Comparative Literature 510 Graduate Seminar: Theory and Method of Comparative Literature	Unit
	Courses at the 500 level in comparative literature (six of these units may be in Comparative Literature 598, Thesis) A course at the 500 level in a related area	12
	Total	18
2)	Upper division courses: Adviser-approved courses in comparative literature Adviser-approved courses in a related area	6
	(At least 3 units of related course work must be in foreign literature, read in the original language.)	
	Total	12

At the conclusion of his coursework, the student will take a written comprehensive examination for the master's degree. The examination may be waived if the student completes a thesis.

For further information, consult the Department of English.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

COMPARATIVE LITERATURE COURSES

(Offered by the Department of English)

202 Short Story (3) (Same as English 202)

305 The Hebrew Prophets (3)

(Same as Religious Studies 305)

312 The Bible as Literature (3)

A comprehensive survey of Biblical literature emphasizing intrinsic literary qualities as well as the influence of major themes of both Old and New Testament writings upon western literary traditions.

317

Comparative Literature

314 The Oral Tradition in Literature (3)

A study of storytelling as an art, particularly as developed through the media of the folktale.

315 Classical Mythology in World Literature (3)

The origins, elements, forms and functions of classical mythology in works from the earliest times to the present.

316 Celtic and Germanic Mythology (3)

A basic study of the principal Celtic and Germanic myths with some discussion of literary and archeological relationships.

317 Indic Mythology (3)

A survey of the mythologies embodied in the *Mahabharata*, the *Ramayana*, the *Vedas* and the *Sathapatha Brahmana* of India, and in the *Abast*, *Avesta*, and *Shah Namah* of Persia, and their relation to the principal mythologies of Europe.

318 Baltic and Slavic Mythology (3)

A study of the principal myths of the Balts and Slavs and their relation to the Indo-European inheritance.

319 African Mythology (3)

A study of the principal myths of sub-Saharan Africa, together with their reflections in African art and custom.

320 Greek and Roman Literature (3)

Readings in English translation from the literature of classical Greece and Rome.

324A Advanced World Literature (3)

Selected readings in Indian, Chinese, Japanese, Middle Eastern and European literature from the beginning to 1650.

324B Advanced World Literature (3)

Selected readings from Oriental and Western literature from 1650 to the present.

332 Medieval Literature of Western Europe (3)

Selected readings in modern English translation from the medieval literature of England and the continent from St. Augustine to Sir Thomas Malory.

333 Literature of the Renaissance (3)

Major phases of the Renaissance as a literary movement, from Erasmus to Montaigne and Cervantes.

352 African Literature (3)

(Same as English 352)

360 Irish Literature (3)

Selected writings representative of Irish literature from the early Middle Ages to the present.

371A.B The French Tradition (3)

A comprehensive survey of French Literature from the Renaissance to present times. The first semester will include the novel, short story and essay; the second semester will cover drama and poetry.

373 Masters of Russian Literature (3)

Reading, discussion, and interpretation of selected works by Pushkin, Dostoyevsky, Tolstoy, Chekhov, Pasternak, and others, and their relationship to Western literature.

374 Modern Russian Literature (3)

A study of literary trends and representative works of Russian writers from Maxim Gorky to the present times. Special consideration of the Soviet literary theory and its impact upon their literature. Lectures and readings in English.

375 Hispanic Literature (3)

A study of selected translations from Hispanic literature and their relations to world literature. Readings in the picaresque novel, Cervantes, Golden Age drama, Galdos, Unamuno, Lorca.

376 Main Trends in Spanish-American Literature (3)

An introduction to the main currents of Spanish-American literature, emphasizing contemporary writers such as Alegria, Asturias, Borges, Fuentes, Neruda. Close attention will be given to the relation between the artistic expression and the ideological values of the same period.

402 Art, Literature, and the Development of Consciousness (3)

(Same as Interdisciplinary Center 402)

403 The Quest for Self: East and West (3)

(Same as Interdisciplinary Center 403)

404 The Nature of Love: Plato to Joyce (3)

(Same as Interdisciplinary Center 404)

405 Psychoanalysis and Drama (3)

(Same as Interdisciplinary Center 405)

425 Indian Literature (3)

A study of selected works of Indian literature.

426 Chinese and Japanese Literature (3)

A study of selected translations of Chinese and Japanese literature.

427 Modern Japanese Fiction (3)

A study of major writers and literary movements in 20th-century Japanese fiction.

430 Persian and Arabian Literature (3

A survey course on the nature and distribution of the classics of western Asia in English translation, with lectures, readings and discussion.

445 Literature of the Americas: Contemporary Novelists (3)

A study of the interdependency of the contemporary fiction of North and South America. It focuses on direct influences, such as Hemingway's and Faulkner's on Latin American writers, and Borges' influence on North American writers. It also examines several parallels in techniques and themes as they reflect relationships in and between the Northern and Southern cultures.

450 The Naturalists (3)

A study of naturalism in the works of Turgenev, Balzac, the brothers Goncourt, Maupassant, Zola, Huysmans, Ibsen, Verga; and also the works of Gissing, Moore, Hardy, Garland, Crane, Norris, Dreiser, London, and O'Neill.

453 The Novel in France and Germany (3)

Reading, discussion, and interpretation of outstanding novels in translation with a view toward determining some principles of the narrative arts. Emphasis on Goethe, Stendhal, Flaubert, Mann, Kafka, Proust, and others.

Comparative Literature

454 Contemporary Movements in European Literature (3)

A study of modern literary movements, including naturalism, realism, symbolism, expressionism and surrealism, with reading and discussion of selected examples.

457 The Experimental Novel (3)

A study of contemporary novels, including examples of surrealism and the nouveau roman, as well as other novels not readily classified.

473A,B World Drama (3,3)

Reading, discussion and interpretation of great plays of the world in translation, emphasizing them as literature for performance. First semester from ancient Greece through the mid-19th century; second semester, from Ibsen to the present.

482 Senior Seminar: Major Writers (3)

Directed research and writing, group discussion, and lectures involving intensive study of major writers. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

483 Senior Seminar: Special Studies in Comparative Literature (3)

Directed research and writing, group discussion, and lectures devoted to significant periods, movements, and themes in world literature. The student should consult his adviser and the schedule of classes for the sections available. This course number may be repeated with different content for additional credit.

491 Senior Seminar: Greek Tragedy (3)

Fifth century Greek tragedy through the extent works of Aeschylus and Sophocles, and 10 plays of Euripides. (Same as Theatre 491)

491 Senior Seminar: Realism (3)

The theory, the origins, and the development of realism.

492 Literature of Action in 20th-Century France (3)

(Same as French 492)

492 German Literature in Translation (3

(Same as German 492)

499 Independent Study (1-3)

510 Graduate Seminar: Theory and Method of Comparative Literature (3)

Introduction to the theories and methods of comparative literature and the problems of translation.

550 Graduate Seminar: Medieval Literature (3)

As appropriate to the specialized research and publication of the instructor, this course offers directed research and writing, group discussion and lectures, concerning the literature of Western Europe during the Middle Ages. Special problems as the development of medieval narrative, the growth and development of the Arthurian legend, lyric poetry, allegory and devotional literature.

551 Graduate Seminar: The Renaissance and Baroque (3)

Comparative investigation of a theme, genre, or major figures in western literature for the Renaissance and Baroque Period. Directed research and writing, group discussions, independent study. Since the topic each year will vary, depending upon the specialized interests and publications of the instructor, this course number may be repeated with different content for additional credit.

- 552 Graduate Seminar: Neoclassicism (3)
- 553 Graduate Seminar: Romanticism (3)
- 554 Graduate Seminar: Studies in the Modern Period (3)
- 571 Graduate Seminar: The Novel (3)

As appropriate to the specialized interests and publication of the instructor, this course offers directed research and writing, group discussion, and lectures concerning the genre of the novel. An ability to read the novels in the original language will be helpful. The student should consult his adviser and the schedule of classes for sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

- 572 Graduate Seminar: Poetry (3)
- 573 Graduate Seminar: Drama (3)
- 580 Graduate Seminar: Major Figures in World Literature (3)

Directed study and research on a major figure in world literature. Students will write reports and a long paper on approved topics.

- 582 Graduate Seminar: Dante (3)
- 591 Seminar in Comparative Literary Criticism (3)
- 598 Thesis (3)
- 599 Independent Study (1-3)



DEPARTMENT OF ENGLISH

FACULTY

Joan V. Greenwood Department Chairman

Don Austin, Rosemary Boston, John Brugaletta, Miriam Cox, Sherwood Cummings, Dorothea de France, George Friend, Cynthia Fuller, Stephen Garber, Joseph Gilde, Annabelle Haaker, Jean Hall, Mary Hayden, Joseph Hayes, Dennis Hengeveld, Jane Hipolito, Robert Hodges, Michael Holland, Wayne Huebner, Charlotte Hughes, Helen Jaskoski, Hazel Jones*, Dorothy Kilker, William Koon, A. David Law, Arthur Lynn, Willis McNelly, Russell Miller, Keith Neilson, Irene Nims, Paul Obler, Rita Oleyar, Urania Petalas, June Salz Pollak, Cliff Probst, Orrington Ramsay, Michael Riley, Sally Romotsky, William Rubinstein, Joseph Sawicki, Clarence Schneider, John Schwarz, Sari Scott, Alice Scoufos, Donald Sears, Howard Seller, Priscilla Shames, Som Sharma, George Spangler, Alexander Stupple, Elena Tumas, Martha Vogeler, M. John Wagner, John White, Helen Yanko

The English Department offers courses designed to acquaint the student with the nature and development of our language, with the literatures of England and America, and with the disciplines involved in the various kinds of writing. Except for freshman English offerings, courses in world literature in English translation are listed separately, under Comparative Literature. In addition the Department of English offers some specialized professional courses for the preparation of teachers. On the senior and graduate levels, various opportunities are provided for seminar work and independent study.

BACHELOR OF ARTS IN ENGLISH

Requirements: A total of 42 units beyond English 100 and 103 or their equivalents, with the following distribution:

Lower Division (maximum of 9 units)

May include survey courses in British, American, or World Literature.

Basic Course (3 units)

201 Analysis of Literary Forms

Upper Division (minimum of 33 units)

Language courses (minimum of 3 units), selected from the following:

303 The Structure of Modern English

305 American Dialects

490 History of the English Language

American Literature (6 units):

321 American Literature to Whitman

322 American Literature from Twain to the Moderns

Major Author Courses (9 units)

333 Chaucer

334 Shakespeare

341 Milton

Period courses (minimum of 6 units, at least 3 in a period preceding the Romantic Movement) selected from the following:

332 Medieval Literature

335 Elizabethan and Jacobean Drama

336 Elizabethan Poetry and Prose

337 17th Century Poetry and Prose

338 Drama of the Restoration and the 18th Century

^{*} College administrative officer.

339 Restoration Literature (1660-1700)

340 18th Century Poetry and Prose

343 The Romantic Movement in English Literature

344 Victorian Literature

345 The Development of the English Novel through Jane Austen

346 The Development of the 19th Century English Novel

462 Modern British and American Novels

463 Contemporary British and American Novels

464 Modern British and American Drama

466 Modern British and American Poetry

Transfer students should consult with their advisers who may recommend the granting of further credit for lower division work completed at other institutions.

Electives to complete a minimum of 42 units selected from additional courses in language and composition, period courses, literary criticism, senior seminars, and comparative literature. Comparative literature offerings are listed separately, but

count toward an English major.

A program of literary studies gains in perspective through the study of history, sociology, philosophy, and psychology. These fields offer vital lifelines which nourish and deepen understanding of literature. Students of literature are strongly advised to include such courses in their program, particularly in the areas of philosophy and psychology.

English majors who intend to pursue graduate study are urged to acquire proficiency in at least one foreign language. Note: Freshmen intending to major in English should complete two years of course work in a foreign language, or dem-

onstrate equivalent accomplishment by transfer or by examination.

MINOR IN ENGLISH

Requirements: a total of 21 units.

Lower Division (maximum of 9 units)

201, 211, 212, or any lower division course beyond English 100 and 103 or the equivalent.

Lower Division electives (3 units)

Upper Division (minimum of 12 units), including:

American Literature (minimum of 3 units), selected from the following:

321 American Literature to Whitman

322 American Literature from Twain to the Moderns

Language courses (minimum of 3 units), selected from the following:

303 The Structure of Modern English

305 American Dialects

490 History of the English Language

Major Author Courses (minimum of 6 units)

334 Shakespeare

333 Chaucer or 341 Milton

41 MILLON

MASTER OF ARTS IN ENGLISH

To qualify for admission to the program for the M.A. in English (classified graduate status) a student must hold a bachelor's degree in English from an accredited institution at which he has maintained at least a 3.0 grade-point average in the major courses provided that he has a minimum of 24 units of upper-division coursework; or if he holds a bachelor's degree in another major, he must have completed 24 units of upper-division course work in English with at least a 3.0 grade point average. If the student lacks the prerequisite number of English

English

courses, he must make them up before he may begin work in the master's degree program, earning at least a 3.0 in such make-up coursework. In the event that the student's G.P.A. in prerequisite English courses is less than 3.0, he may be allowed to take from 6 to 9 units of probationary, adviser-approved coursework. If his GPA in these probationary courses is 3.0 or better, he may be admitted (classified). Courses taken to remove qualitative and quantitative deficiencies may not be applied to the M.A. program.

A student is required to have two years of one foreign language at the college level or 6 units of study in comparative literature. If taken as graduate work, these 6 units may be applied to the master's degree under "units in subjects related to

English."

Program:	nits
Minimum units in courses restricted to graduate students (500 series) Maximum units in specified upper-division courses in English	. 18
Units in subjects related to English	. 6
Total	30

At the conclusion of his program he will take the written comprehensive examination for the master's degree.

Note: The student is strongly advised to take the steps necessary for admission to the program before registering for his first graduate courses. Part of the admission process is to confer with the graduate adviser, who will analyze prerequisites and designate those courses which will apply to the degree program. Courses taken by an unclassified student do not necessarily apply toward a degree. At the time the student achieves classified status, no more than 9 units of postgraduate coursework may be applied to the master's degree program.

For further information, consult the Department of English.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

ENGLISH COURSES

For world literature in English translation see courses under comparative liter-ture.

100 Composition (3)

A basic course in composition. The course carries no credit toward the major.

103 Seminars in Writing (3)

A course to develop the ability to give effective written shape to ideas. Readings on a topic of current relevance are meant to generate interest and enthusiasm, to motivate the student to express his thoughts in a meaningful, disciplined manner.

105 Introduction to Creative Writing (3)

An exploratory creative writing course in which the student is given the opportunity to write in various genres. The course carries no credit toward the major.

110 Literature of the Western World from Ancient through Medieval Times (3)

The study of representative writers and works from the ancient through the medieval world.

111 Literature of the Western World from the Renaissance through the 19th Century (3)

The study of representative writers and works from the Renaissance through the 19th century.

112 Modern Literature of the Western World (3)

The study of representative writers and works of modern literature.

201 Analysis of Literary Forms (3)

The main literary forms—prose fiction, poetry, and drama—are studied and analyzed. Various critical methods are applied to representative works mainly from English and American literature. Especially recommended for prospective teachers of literature.

202 The Short Story (3)

A course designed to introduce the student to the study of the structure and technique of the short story. Emphasis on critical analysis of selected American and European short stories. (Same as Comparative Literature 202)

205 Introduction to Drama (3)

A course designed to introduce the student to the study of dramatic literature. Emphasis on close analysis of individual plays.

206 Introduction to Poetry (3)

A course designed to increase students' understanding and appreciation of the art of poetry. The primary activity will be close reading of poems written in English.

211 Masters of British Literature (3)

Prerequisite: limited to students who are of sophomore standing or who have obtained the consent of the instructor. An introduction to major periods and movements, major authors, and major forms through 1760.

212 Masters of British Literature (3)

Prerequisite: limited to students who are of sophomore standing or who have obtained the consent of the instructor. An introduction to major periods and movements, major authors, and major forms from 1760 through modern times.

301 Advanced Composition (3)

Prerequisites: English 100, 103, or their equivalents. Exercises in creativity, analysis, and rhetoric as applied in expository writing. Required of English majors seeking the secondary credential.

303 The Structure of Modern English (3)

Prerequisite: junior standing. The grammar of contemporary English. Modern English usage. Required of English majors seeking the secondary credential.

305 American Dialects (3)

An examination of the principles of dialectology. Emphasis will be on the description of modern American dialects and their role in social, cultural and educational issues of today.

320 Literature of the American Indian (3)

A study of the prose and poetry of the American Indian, focusing on the literatures of the North American tribes.

321 American Literature to Whitman (3)

Emphasis on major writers: Hawthorne, Poe, Melville, Emerson, Thoreau, Whitman, and others.

322 American Literature from Twain to the Moderns (3)

Emphasis on Twain, James, Crane, Hemingway, Faulkner, O'Neill, Frost, Eliot.

325 American Ballad and Folksong (3)

A survey of Anglo-American balladry and folksong, with atention to historical development, ethnic background, and poetical values.

332 Medieval English Literature (3)

An introduction to the literature of medieval England, exclusive of Chaucer. Readings in modern English versions of representative major works and genres from *Beowulf* to Malory.

333 Chaucer (3)

A study of *The Canterbury Tales* and of Chaucer's language, with particular emphasis upon the understanding of the vocabulary, pronunciation, grammar, and syntax of the East Midland dialect of Middle English, as indispensable to literary appreciation.

334 Shakespeare (3)

An introduction to Shakespeare's art through a detailed study of the more famous plays.

335 Elizabethan and Jacobean Drama (3)

Studies of representative English dramatists of the late 16th and early 17th centuries. Emphasis on the development of the dramatic tradition in the plays of Marlowe, Jonson, Webster, Beaumont and Fletcher, and others.

336 Elizabethan Poetry and Prose (3)

A study of the nondramatic literature of the English Renaissance from More to Campion. Emphasis on Renaissance thought and the works of Spenser.

337 17th-Century Poetry and Prose (3)

A survey of the major writers of the period from 1603 to 1660 exclusive of Milton.

338 The Drama of the Restoration and the 18th Century (3)

A study of representative plays of the Restoration and the 18th century. Emphasis will be placed on the development of such dramatic movements as the heroic play, Restoration comedy, and sentimental drama.

339 Restoration Literature (1660-1700) (3)

Butler, Rochester, Dryden, Pepys, and selected minor writers.

340 18th-Century Poetry and Prose (3)

Swift, Addison and Steele, Pope, Boswell, Johnson, and selected minor writers.

341 Milton (3)

An intensive study of the poetry and prose in the light of Milton's intellectual development.

343 The Romantic Movement in English Literature (3)

Burns, Blake; Wordsworth, Coleridge; Byron, Shelley, and Keats. The reaction against rationalism, the rise of revolutionary and liberal thought, humanitarianism, and emphasis on individual creativity.

344 Victorian Literature (3)

A study of literature in its relationship to the problems which emerge from the social, cultural, scientific, and industrial revolutions of the Victorian period.

345 The Development of the English Novel through Jane Austen (3)

A study of the English novel from its beginnings to the 19th century considering such novelists as Defoe, Richardson, Fielding, Sterne, and Austen.

346 The Development of the 19th-Century English Novel (3)

A study of such novelists as the Bröntes, Thackeray, Dickens, Eliot, and Hardy.

351 Science Fiction (3)

Prerequisite: English 101. The study of science fiction as a genre, including future-scene fiction, the utopian novel, the superman novel, and short fantasy stories.

352 African Literature (3)

African literature written in the English language, with special emphasis on the fiction, poetry, and drama of the new nations. (Same as Comparative Literature 352)

353 Black Writers in America (3)

A study of black American writers from Frederick Douglass to the present. Concentration on important figures such as Wright, Ellison and Baldwin.

364 Seminar in Writing (3)

Prerequisites: evidence of student's previous interest in creative writing and consent of the instructor. Study of superior models, development of style, and group criticism and evaluation of each student's independent work. Depending on the specialized writing field of the instructor, the various sections will concentrate on fiction, plays, or poetry. May be repeated for credit.

391 Survey of English Literary Criticism (3)

A study of the major English critics from the Renaissance to the modern. Emphasis on Sidney, Dryden, Johnson, Coleridge, Arnold and Eliot.

421 Minority Images in American Literature (3)

An examination of 19th- and 20th-century literature written by and about racial groups in America. Includes Uncle Tom's Cabin, Soul on Ice and Laughing Boy.

423 Early American Literature (3)

Prerequisite: English 321 or consent of instructor. The literature of colonial and revolutionary America, including the Puritans, 18th-century deism and rationalism, and the literary antecedents of American democratic thought.

433 Children's Literature (3)

A study of masterpieces of the world's literature for children. Illustrates literary qualities appealing to children and demonstrates the ways in which children's literature reflects the particular cultural differences of the various Oriental, classical and modern cultures.

435 Studies in Shakespeare (3)

Prerequisite: English 334 or consent of instructor. An intensive study of selected plays with primary emphasis upon problems of dramatic structure and artistic meanings.

445 The American Tradition in Poetry (3)

A study of selected American poets from the 17th century to 1914. Emphasis on the close reading of individual poems.

446 The American Novel to 1914 (3)

A study of selected novelists from C. B. Brown, through Melville and Twain, to Dreiser.

451 Philosophical Backgrounds of Modern Literature (3)

(Same as Interdisciplinary Center 451)

452 Modern Literary Criticism (3)

Prerequisite: upper division standing or consent of the instructor. A study of the major movements in 20th-century British and American criticism.

462 Modern British and American Novels (3)

Prerequisite: survey of English, American, or world literature; an upper division literature course; or consent of the instructor. The development of modern British and American novels from 1900 to 1950.

463 Contemporary British and American Novels (3)

The novel in English since World War II.

464 Modern British and American Drama (3)

Prerequisite: survey of English, American, or world literature; an upper division literature course; or consent of instructor. The development of British and American drama from 1900 to the present.

466 Modern British and American Poetry (3)

Prerequisite: survey of English, American or world literature; an upper division literature course; or consent of instructor. The development of British and American poetry from 1900 to the present.

490 History of the English Language (3)

Prerequisite: senior or graduate standing. The historical development of English vocabulary, phonology, morphology, and syntax from Indo-European to modern American English.

491 Senior Seminar (3)

Prerequisite: an undergraduate course in the area to be studied, a B average or better in English courses, or consent of instructor. Directed research and writing, group discussion, and lectures covering selected topics from language studies, intensive studies of major writers, criticism, and literary types, periods, and ideological trends.

499 Independent Study (3)

Open to advanced students in English with the consent of the department chairman. May be repeated for credit.

570 Graduate Seminar: Language Studies (3)

Directed research and writing, group discussion, and lectures covering philology, historical development, and structure of English. Individual offerings under this course number may deal with only one aspect of language studies. The student should consult his advisor and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

571 Graduate Seminar: Major Writers (3)

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering major figures such as: Shakespeare, Milton, Chaucer, Melville, Twain, Hawthorne, Joyce, and Coleridge. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

572 Graduate Seminar: Literary Genres (3)

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion and lectures, covering such major literary types as: the epic, the novel, the short story, lyric poetry, tragedy, comedy, and historical drama. The student should consult his adviser and the schedule of classes for sections appropriate to his graduate program. This course number may be repeated with different content for additional credit. (Same as Theatre 573)

573 Graduate Seminar: Cultural Periods (3)

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering the literature of a particular cultural period from the Anglo-Saxon to modern times. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

574 Graduate Seminar: Special Problems in Literature (3)

As appropriate to the specialized research and publication of the instructor, this course will offer directed research and writing, group discussion, and lectures covering special problems such as: the detailed critical study of varying influences on literature, including philosophical, religious, scientific, geographic, and other ecological viewpoints. The student should consult his adviser and his schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

579 Graduate Seminar: Problems in Criticism (3)

Directed research and writing, group discussion, and lectures covering historical development and schools of criticism. Individual offerings within this course number may deal with only one aspect of critical problems. The student should consult his adviser and the schedule of classes for the sections appropriate to his graduate program. This course number may be repeated with different content for additional credit.

599 Independent Graduate Research (3)

Research projects in areas of specialization beyond regularly offered course work. Oral and written reports. This course number may be repeated with different content for additional credit.

ENGLISH EDUCATION COURSES

442 Teaching English in the Secondary School (2)

Prerequisites: Education 411, admission to teacher education. Principles, methods, and materials of teaching English in the secondary school. The student who has not had teaching experience must register concurrently in Education 449.

749 Student Teaching in English in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.

DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

FACULTY

Walter D. Kline Department Chairman

Linda Andersen, Oswaldo Arana, Nancy Baden, Robert Bertalot, Gerald Boarino, Samuel Cartledge, Modesto Diaz, Leon Gilbert, G. Bording Mathieu, Harvey Mayer, Doris Merrifield, Ervie Peña, Charles Shapley, Gisela Studebaker, Curtis Swanson, Marjorie Tussing, Eva Van Ginneken, Stephen Vasari, Jon Zimmermann

The program of the Department of Foreign Languages and Literatures is designed to meet the needs of several types of students, including those who seek a liberal arts education with an emphasis on a foreign language and its literature; those who intend to teach at the elementary, secondary, or college level; those who plan to use foreign languages in professional careers; or those who desire to pursue graduate studies. The program emphasizes high standards of achievement in the practical use of the language, in the study of its literature and its culture, in the mastery of applied linguistics, and in methodology of teaching, the latter acquired in part through apprenticeship.

A student may enroll at any point in the sequence of courses for which his pre-

vious study has prepared him.

BACHELOR OF ARTS IN FRENCH, GERMAN OR SPANISH MAJOR IN A FOREIGN LANGUAGE

Three options are offered: French, German or Spanish. Requirements: Courses 101, 102, 203, 204, 213, 214, or their equivalents completed satisfactorily; plus a minimum of 24 units of upper division courses, including 315, 317, 375, 431, 441, 451, 461.

Attention is directed to the courses in foreign literatures in translation listed elsewhere in this catalog under comparative literature. These courses may not be counted toward a major in a foreign language.

MINOR IN A FOREIGN LANGUAGE

Requirements: Courses 101, 102, 203, 204, 213, 214, or their equivalents, completed satisfactorily; plus nine units in upper division courses selected in consultation with the adviser. Minor concentrations are offered in French, German, Portuguese, Russian and Spanish.

PROGRAMMED COURSES IN UNCOMMONLY TAUGHT LANGUAGES

The department has available a number of programmed courses in languages which cannot be regularly taught such as Arabic, Hindi, Japanese, etc. For details see Foreign Languages 198.

CREDENTIAL PROGRAMS

All prospective teachers, before being admitted to a credential program, must pass a proficiency examination in which their skills of listening, speaking, reading, writing and knowledge of linguistic principles will be tested. The examination is administered twice yearly, in September and February. Students should make arrangements with the department to take the test during their senior year or during the first semester of their fifth year.

STANDARD TEACHING CREDENTIAL WITH A SPECIALIZATION IN ELEMENTARY TEACHING

Students who are candidates for the standard teaching credential with a specialization in elementary teaching are encouraged to enroll in Foreign Languages Education 432 and 433.

Foreign Languages and Literatures

STANDARD TEACHING CREDENTIAL WITH A SPECIALIZATION IN SECONDARY EDUCATION

The credential program is the same as for the liberal arts major, with the following additional requirements:

Foreign Languages Education 442;

French or German or Spanish Applied Linguistics 466;

plus six units in the major language selected with the approval of the adviser and taken in the senior year or thereafter at the 400 and 500 level.

INTERNATIONAL PROGRAMS

In accordance with recommendations made by the Modern Language Association of America, the Department of Foreign Languages and Literatures encourages all majors interested in a teaching career to participate in a study-abroad program. This will enable a student to perfect his mastery of the language and afford him additional insights into the foreign culture. To this end, the California State Colleges International Programs offer a wide variety of study opportunities on the junior, senior and graduate level. Language majors are, however, required to complete a minimum of three literature courses at the 400 level on the Fullerton campus. For further information, see page 33.

THE LANGUAGE LABORATORY

Students enrolling in courses 101, 102, 203, 204 are required, in addition to the regular class periods, to practice for the minimum of prescribed time in the language laboratory. The 30-station laboratory operates like a library; students may use it at a time most convenient to them, preferably every day in sessions of 15 to 30 minutes. Further details will be announced by each instructor and by the supervisor of the language laboratory.

Students are invited to make use of the collection of literary and cultural recordings in French, German, Portuguese, Russian and Spanish available in the language

laboratory.

MASTER IN ARTS IN FRENCH, GERMAN OR SPANISH

The degrees of Master of Arts in French, German and Spanish require a minimum of 30 semester units beyond the bachelor's degree. A candidate presenting a B.A. which has fewer than 24 upper division units in the major language, or is otherwise inadequate, normally will be required to take additional courses to build a full undergraduate major before beginning the graduate program. The student must also demonstrate proficiency in English, either by examination or a three-unit upper division course in English grammar. The 30 units in the graduate program are distributed as follows:

as ablotto.	Units
Language and linguistics courses (minimum of 9 on 500 level)	12
Literature courses (minimum of 6 on 500 level)	12
Subjects in an approved related field	6
	-
Minimum total	30

A part of the 30 units may be assigned to a thesis.

The candidate for the M.A. degree must consult a graduate adviser before beginning his program. Before being advanced to candidacy for the degree, he must demonstrate proficiency in the language to a faculty committee appointed for that purpose. The terminal evaluation is by comprehensive written and oral examination, including fluency in the specified language.

For further information, consult the Department of Foreign Languages and Lit-

atures

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

FOREIGN LANGUAGES COURSES

198 Programmed Courses in Uncommonly Taught Languages (1-3)

Intensive individualized programmed instruction in specific languages other than those regularly offered by the Department of Foreign Languages and Literatures, such as Arabic, Chinese, Hindi, Japanese, etc. Designed to develop the skills of auditory comprehension and speaking in the language to form a basis for later development of the reading and writing skills. A minimum of 3 hours per week in the learning laboratory as well as regular sessions with native informants, are required for each unit of credit. May be repeated for credit.

FOREIGN LANGUAGES EDUCATION COURSES

432 Teaching Foreign Languages in the Elementary School (2)

Methods of teaching FLES: foreign languages in elementary schools. Critical review of materials, audiolingual-visual aids, and current research. Conducted in English, with practice by students in the language they plan to teach.

433 Electromechanical Aids in the Foreign Language Classroom (1)

Principles and techniques of advanced electromechanical, auditory, visual and programmed learning devices in foreign language instruction. Special emphasis on instructional television and the language laboratory.

442 Teaching Foreign Languages in the Secondary School (2)

Prerequisites: Education 340 and 411; French, German, or Spanish 466; and admission to teacher education. Open also to experienced teachers. The student who has not had teaching experience must register concurrently in Education 449. See page 218 under Secondary Education for description of Standard Teaching Credential program. The theory and practice of language learning and language teaching with special emphasis on the audiolingual method in combination with electromechanical aids. Conducted in English, with practice by students in the language they plan to teach. Required, before student teaching, of students presenting majors in foreign languages for the standard teaching credential with a specialization in secondary education.

749 Student Teaching in Foreign Languages in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.

FRENCH COURSES

French 315 and 375 are prerequisites for all French literature courses at the 400 level.

101 Fundamental French (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

102 Fundamental French (5)

Prerequisite: French 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of French. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in French.

203 Intermediate French (3)

Prerequisite: French 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

204 Intermediate French (3)

Prerequisite: French 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in French.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with French 203. Conducted in French.

214 Intermediate Composition and Phonetics (2)

Practice in written expression and oral delivery of cultural and literary materials. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be taken concurrently with French 204. Conducted in French.

300 French Conversation (3)

Prerequisites: French 204 and 214 or equivalent. Designed to enable the student to develop further his oral control of the language in the context of his own or contemporary concerns rather than in the context of the subject matter of a French major. Conducted in French. (1 hour lecture, 2 hours activity)

303 Readings in Scientific French (3)

Prerequisite: French 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to science and mathematics majors.



315 Introduction to French Civilization (3)

Prerequisite: French 204 or equivalent. Reading and discussions to develop a view of the French tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in French.

317 Advanced Composition and Grammar (3)

Prerequisite: French 204 or equivalent. Emphasis on free oral and written expression. Conducted in French.

318 Advanced Composition and Grammar (3)

Prerequisite: French 317 or equivalent. Designed to give the student special competence in the control of French as an instrument for free oral and written expression. Conducted in French.

325 Contemporary French Civilization (3)

Prerequisite: French 204 or equivalent. Reading and discussion to develop understanding of the social and intellectual problems, trends, and contributions of present-day France, while at the same time strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in French.

375 Introduction to Literary Forms (3)

Prerequisite: French 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in French.

400 French for Advanced Students and Teachers (3)

Prerequisite: French 317 or consent of instructor. Intensive review of spoken French, while developing the student's powers of self-expression in the spoken and written language. Conducted in French.

431 French Literature in the Middle Ages and Renaissance (3)

Prerequisite: French 315 or consent of instructor. The development of French literature from the 12th through the 16th centuries, through analysis of representative works. Conducted in French.

441 French Literature in the Century of Revolution (3)

Prerequisite: French 315 or consent of instructor. The principal authors and movements (romanticism, realism, naturalism, symbolism) of the 19th century. Conducted in French.

451 French: Literature in the Baroque and Classic Age (3)

Prerequisite: French 315 or consent of instructor. The essence and evolution of 17th-century classicism, studied principally in the major authors (Corneille, Molière, Racine, La Fayette) and in the dominant genre (the theater). Conducted in French.

461 French Literature in the Age of Enlightenment (3)

Prerequisite: French 315 or consent of instructor. Two complementary aspects of the 18th century: reason and feeling, the *philosophes* and the current of sensibility. Emphasis on major authors (Marivaux, Voltaire, Diderot, Rousseau, Laclos). Conducted in French.

466 Introduction to French Linguistics (3)

The analytical procedures of general linguistics as applied to French, with special attention to structural contrasts between French and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

471 Senior Seminar: Contemporary French Literature (3)

Prerequisite: French 315 or consent of instructor. The major figures of the 20th century, including the generations of Proust, Apollinaire, Malraux, Sartre and Robbe-Grillet. Conducted in French.

485 Senior Seminar in French Literature (3)

Prerequisite: French 431, 441, 451, 461, or senior status. Exploration of a literary current, period, author, genre or problem. The subject will change each time the course is given and may be repeated for credit. Conducted in French.

492 Literature of Action in 20th-Century France (3)

Selected works read, discussed and analyzed in the light of current philosophical trends as well as historical and political developments. The works studied might include such titles as: The Counterfeiters (Gide); Man's Fate and The Temptation of the West (Malraux); The Wall and What is Literature (Sartre); The Plague and Resistance, Rebellion and Death (Camus); Wind, Sand and Stars and A Sense of Life (Saint-Exupéry). Readings and lectures in English. This course may not be counted toward fulfillment of the requirements for the major in French.

499 Independent Study (1-3)

Supervised projects in French language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in French.

510 Graduate Seminar: Phonology (3)

Prerequisite: French 466 or consent of instructor. Conducted in French.

520 Old French (3)

Prerequisite: consent of instructor. Readings in the medieval literature of northern France representing a wide variety of dialects and centuries. Conducted in French.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: French 466 or consent of the instructor. It is highly recommended that the student have had some previous study of Latin. Studies in the phonetic, morphological, syntactic and semantic changes that characterize the development of Latin into the French of today. Conducted in French.

557 Graduate Seminar: French Poetry (3)

Prerequisite: consent of instructor. Conducted in French.

571 Graduate Seminar: French Prose (3)

Prerequisite: consent of instructor. Conducted in French.

575 Graduate Seminar: French Drama (3)

Prerequisite: consent of instructor. Conducted in French.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. May be repeated for credit. Conducted in French.

598 Thesis (3-6)

Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in French and consent of instructor. Supervised research projects in French language or literature. May be repeated for credit.

GERMAN COURSES

German 315 and 375 are prerequisites for all German literature courses at the 400 level.

101 Fundamental German (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of German. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in German.

102 Fundamental German (5)

Prerequisite: German 101 or equivalent. Intensive practice in listening comprehension, speaking, reading, and writing to develop control of the sounds and the basic forms and structure of German. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in German.

203 Intermediate German (3)

Prerequisite: German 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

204 Intermediate German (3)

Prerequisite: German 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in German.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 203. Conducted in German.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with German 204. Conducted in German.

303 Readings in Scientific German (3)

Prerequisite: German 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to science and mathematics majors.

315 Introduction to German Civilization (3)

Prerequisite: German 204 or equivalent. Readings and discussions in German literature, arts and institutions to develop insights into German culture, while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in German.

317 Advanced Conversation and Composition (3)

Prerequisite: German 204 or equivalent. Open to lower division students with the consent of the instructor. Emphasis on free oral and written expression. Conducted in German.

325 Modern German Thought in Science and Culture (3)

Prerequisite: German 204 or equivalent. Readings and discussion of modern German thought in science, literature, philosophy and art, designed to acquaint the student with a broad range of German contributions to present-day civilization while strengthening facility with German language. Open to lower division students with consent of instructor. Conducted in German.

375 Introduction to Literary Forms (3)

Prerequisite: German 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in German.

399 German Phonetics (1)

Prerequisites: junior standing and consent of instructor. Detailed analysis of individual problems in pronunciation followed by intensive work in class and the language laboratory. May be repeated for credit. Conducted in German.

400 German for Advanced Students and Teachers (3)

Prerequisites: German 317 or consent of instructor. Intensive review of German while developing the student's powers of self-expression in the spoken and written language. Conducted in German.

431 The Works of Lessing and Schiller (3)

The major works of Lessing and Schiller illustrating their thought and art. Conducted in German.

441 The Works of Goethe (3)

Selected works of Goethe illustrating his thought and art. Conducted in German.

451 German Literature to the Baroque (3)

Important works from the Hildebrandslied to Simplicissimus in the setting of their intellectual and historical climate. Conducted in German.

461 German Literature Since Goethe (3)

Important works illustrating the development from romanticism to expressionism in the setting of their intellectual and historical climate. Conducted in German.

466 Introduction to German Linguistics (3)

The analytical procedures of general linguistics as applied to German, with special attention to structural contrasts between German and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

485 Senior Seminar in German Literature (3)

Prerequisites: senior standing in German and consent of instructor. Research and discussion in depth of a literary movement, a genre or an author. Subject will vary and will be announced in the class schedule. Topics offered in past years have included the Baroque, the *Novelle*, Brecht, Modern Drama, Keller, Poetic Realism, Romantic Period. May be repeated for credit with a different topic. Conducted in German.

492 German Literature in Translation (3)

Open to all students. Reading, discussion and interpretation of relevant German literature with emphasis on determining the specific contribution these works have made to world literature and the shaping of global philosophies. Authors include Goethe, Schiller, Kafka, Hesse, Mann, Brecht, Grass, Hauptmann. Readings and lectures in English. This course may not be counted toward fulfillment of the requirements for the major in German

499 Independent Study (1-3)

Supervised research projects in German language or literature to be taken with the consent of the instructor and the department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in German.

510 Graduate Seminar: Phonology (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: German 466 or consent of instructor. Conducted in German.

557 Graduate Seminar: German Poetry (3)

Prerequisite: consent of instructor. May be repeated for credit with a different topic. Conducted in German.

571 Graduate Seminar: German Prose (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

575 Graduate Seminar: German Drama (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. Subject will vary and will be announced in the class schedule. May be repeated for credit with a different topic. Conducted in German.

598 Thesis (3-6)

Prerequisite: recommendation of the student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in German and consent of instructor. Supervised research projects in German language or literature. May be repeated for credit.

HEBREW COURSES

101 Fundamental Hebrew (3)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew.

102 Fundamental Hebrew (3)

Prerequisite 101. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic structure of Hebrew-

203 Intermediate Hebrew (3)

Prerequisite: Hebrew 102 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

204 Intermediate Hebrew (3)

Prerequisite: Hebrew 203 or consent of instructor. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Hebrew.

499 Independent Study (1-3)

Supervised projects in Hebrew language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

ITALIAN COURSES

101 Fundamental Italian (4)

Intensive practice in listening comprehension, speaking and writing to develop control of the sounds and the basic structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Italian.

102 Fundamental Italian (4)

Prerequisite: Italian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of sounds and the basic forms and structure of Italian. Audiolingual assignments are an integral part of the course and are to be prepared in the language-laboratory. Conducted in Italian.

LATIN COURSES

101 Fundamental Latin (3)

Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

102 Fundamental Latin (3)

Prerequisite: Latin 101 or equivalent. Intensive practice to develop a comprehensive reading knowledge and a fundamental writing ability in Latin. Modern techniques of language instruction will be applied.

203 Intermediate Latin (3)

Prerequisite: Latin 102 or equivalent (2 years of high school Latin). Intensive reading and writing. Selected prose and poetry from the Golden Age. Audiolingual techniques of language learning are used when applicable.

204 Intermediate Latin (3)

Prerequisite: Latin 203 or equivalent (3 years of high school Latin). Intensive reading and writing. Selected prose from the Silver and Middle Ages. Audiolingual techniques of language learning are used when applicable.

499 Independent Study (1-3)

Supervised projects in Latin language and Roman literature. To be taken with consent of the Department Chairman as a means of meeting special curricular problems. Subject matter will vary. May be repeated for credit.

PORTUGUESE COURSES

101 Fundamental Portuguese (4)

Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

102 Fundamental Portuguese (4)

Prerequisite: Portuguese 101 or equivalent. Listening comprehension, speaking, reading comprehension, and writing to develop control of the sounds and the basic forms and structures of Portuguese. Enrollment restricted to students with previous study of a Romance language. Conducted in Portuguese.

315 Introduction to Luso-Brazilian Culture and Civilization (3)

Prerequisites: Portuguese 102 or equivalent, reading knowledge of Portuguese or consent of instructor. Readings and discussions to develop insights into the main currents of Portuguese culture and civilization, their expansion to the New World, and the intellectual and artistic development of Brazil from its discovery to the end of the Second Empire. Conducted in Portuguese.

317 Advanced Conversation and Composition (3)

Prerequisite: Portuguese 102 or equivalent. Open to lower division students with the consent of the instructor. Emphasis on free oral and written expression. Conducted in Portuguese.

325 Contemporary Brazilian Civilization (3)

Prerequisite: Portuguese 315 or consent of instructor. Readings and discussion toward developing an understanding of the social and intellectual problems, trends, and contributions to Brazil from the advent of the Republic. Major emphasis on present day Brazil. Conducted in Portuguese.

431 Portuguese Literature of the Golden Age (3)

Prerequisite: Portuguese 315 or consent of instructor. The literature of Portugal's golden age (1500–1700). The major works of the Cancioneiros, Gil Vicente, Luis de Camões and other writers will be examined from the point of view of their artistic structure as well as within the context of Portuguese culture and civilization. Conducted in Portuguese.

441 Brazilian Literature (3)

Prerequisite: Portuguese 315 or consent of instructor. The literature of Brazil from the Colonial period to the present. Conducted in Portuguese.

499 Independent Study (1-3)

Supervised projects in Portuguese language or literature to be taken with the consent of the instructor and the department chairman. May be repeated for credit.

RUSSIAN COURSES

101 Fundamental Russian (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Russian. Audio-lingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

102 Fundamental Russian (5)

Prerequisite: Russian 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structures of Russian. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Russian.

203 Intermediate Russian (3)

Prerequisite: Russian 102 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

204 Intermediate Russian (3)

Prerequisite: Russian 203 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Russian.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 203. Conducted in Russian.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Russian 204. Conducted in Russian.

303 Readings in Scientific Russian (3)

Prerequisite: Russian 102 or equivalent. Readings reflecting a broad spectrum of writing in the physical and natural sciences and mathematics. Special attention given to the development of rapid reading for comprehension. Open only to Science and Mathematics majors.

315 Introduction to Russian Civilization (3)

Prerequisite: Russian 204 or equivalent. Reading and discussion to develop a view of the Russian tradition (its social, intellectual and literary evolution) while at the same time strengthening facility with the language. Open to lower division students with consent of instructor. Conducted in Russian.

317 Advanced Conversation and Composition (3)

Prerequisite: Russian 204 or equivalent. Open to lower division students with the consent of the instructor. Emphasis on free oral and written expression. Conducted in Russian.

375 Introduction to Literary Forms (3)

Prerequisite: Russian 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in Russian.

400 Russian for Advanced Students and Teachers (3)

Prerequisite: Russian 317 or consent of instructor. Intensive review of spoken Russian, while developing the student's powers of self-expression in the spoken and written language. Conducted in Russian.

431 Early Russian Literature (3)

Prerequisite: Russian 315 or consent of instructor. Evolution of Russian literature from the medieval ecclesiastic traditions and transition to Baroque and Classicism. French and German influence on the 18th century. Transition to Romanticism and the beginnings of Realism. Conducted in Russian.

441 The Works of Tolstoy and Dostoevsky (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Major works of Tolstoy and Dostoevsky in their intellectual and historical setting and their impact on Russian and world literature. Conducted in Russian.

451 The Golden Age of Russian Literature (3)

Prerequisite: consent of instructor. A study of major literary works of the first half of the 19th century which exemplify cultural and intellectual movements in Russia. Conducted in Russian.

461 Russian Literature from 1917 (3)

Prerequisite: Russian 315 or equivalent, or consent of instructor. Representative works of outstanding modern Russian writers with an emphasis on The Nobel Prize winners (M. Sholokhov and B. Pasternak). Analysis and discussion of their prose and poetry in the light of the social problems of present-day Russia. Conducted in Russian.

499 Independent Study (1-3)

Supervised projects in Russian language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

SPANISH COURSES

Spanish 315, 316 and 375 are prerequisites for all Spanish literature courses at the 400 level.

101 Fundamental Spanish (5)

Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Spanish.

102 Fundamental Spanish (5)

Prerequisite: Spanish 101 or equivalent. Intensive practice in listening comprehension, speaking, reading and writing to develop control of the sounds and the basic forms and structure of Spanish. Audiolingual assignments are an integral part of the course and are to be prepared in the language laboratory. Conducted in Spanish.

203 Intermediate Spanish (3)

Prerequisite: Spanish 102 or equivalent. Intensive practice in speaking, understanding, reading and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

204 Intermediate Spanish (3)

Prerequisite: Spanish 203 or equivalent. Intensive practice in speaking, understanding, reading, and writing based on cultural and literary materials. Linguistic analysis from sound to sentence. Conducted in Spanish.

213 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 203. Conducted in Spanish.

214 Intermediate Composition (2)

Practice in written expression based on cultural and literary materials. May be taken concurrently with Spanish 204. Conducted in Spanish.

315 Introduction to Spanish Civilization (3)

Prerequisite: Spanish 204 or equivalent. Readings and discussions in Spanish literature, arts and institutions to develop insights into Spanish culture, while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in Spanish.

316 Introduction to Spanish-American Civilization (3)

Prerequisite: Spanish 204 or equivalent. Reading and discussion in Spanish-American literature, arts and institutions to develop insights into Spanish-American literature and culture while strengthening facility with the language. Open to lower division students with the consent of the instructor. Conducted in Spanish.

317 Advanced Conversation and Composition (3)

Prerequisite: Spanish 204 or equivalent. Open to lower division students with the consent of the instructor. Emphasis on free oral and written expression. Conducted in Spanish.

375 Introduction to Literary Forms (3)

Prerequisite: Spanish 317 or consent of instructor. An introduction to the principal literary forms, prose fiction, poetry, drama and the essay and to the major concepts of the literary techniques and criticism. Close analysis and interpretation of various texts to increase the student's abilities in reading, language, and literary criticism. Conducted in Spanish.

399 Spanish Phonetics (1)

Prerequisite: junior standing and consent of instructor. Detailed analysis of students' specific problems in pronunciation followed by intensive work in class and the language laboratory until articulatory proficiency is achieved. May be repeated for credit. Conducted in Spanish.

400 Spanish for Advanced Students and Teachers (3)

Prerequisite: Spanish 317 or consent of instructor. Intensive study of spoken Spanish, while developing the student's powers of self-expression in the spoken and written language. Conducted in Spanish.

431 The Golden Age (3)

Prerequisite: Spanish 315 or consent of instructor. Major works including Mysticism, the Picaresque and Pastoral Novels, the theater of Lope de Vega and his contemporaries. Conducted in Spanish.

440 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from The Conquest to 1888. Conducted in Spanish.

441 Spanish-American Literature (3)

Prerequisite: Spanish 316 or consent of instructor. Spanish-American Literature from *modernismo* to the present. Conducted in Spanish.

451 Spanish Literature to the Golden Age (3)

Prerequisite: Spanish 315 or consent of instructor. Cantar de Mio Cid and other epic poetry, the early ballads and lyric literature, the prose of Juan Manuel, the Renaissance lyrics of Garcilaso de la Vega, El libro de buen amor and La Celestina. Conducted in Spanish.

461 Spanish Literature Since Neoclassicism (3)

Representative works of the 19th and 20th centuries. Analysis of romanticism, eclecticism, naturalism and realism. Conducted in Spanish.

466 Introduction to Spanish Linguistics (3)

The analytical procedures of general linguistics as applied to Spanish, with special attention to structural contrasts between Spanish and English. Emphasis on the application of linguistic analysis to the teaching of modern foreign languages.

472 Senior Seminar: Cervantes and the Age of Humanism (3)

Prerequisite: Spanish 431 or consent of instructor. Cervantes' artistic creation and its relation to the culture of the 16th century. Special emphasis on *Don Quixote* and the *Novelas ejemplares*. Conducted in Spanish.

475 Senior Seminar: Contemporary Literature of Spain (3)

The Generation of '98 and 20th-century theater, poetry and novel. Conducted in Spanish.

343

499 Independent Study (1-3)

Supervised research projects in Spanish language or literature to be taken with the consent of the instructor and department chairman. May be repeated for credit.

500 Graduate Seminar: Advanced Structure and Style (3)

Prerequisite: consent of instructor. Conducted in Spanish.

510 Graduate Seminar: Phonology (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

530 Graduate Seminar: Historical Linguistics (3)

Prerequisite: Spanish 466 or consent of instructor. Conducted in Spanish.

556 Graduate Seminar: Spanish Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

557 Graduate Seminar: Spanish-American Poetry (3)

Prerequisite: consent of instructor. Conducted in Spanish.

567 Graduate Seminar: Spanish-American Novel (3)

Prerequisite: consent of instructor. Conducted in Spanish.

571 Graduate Seminar: Spanish Prose (3)

Prerequisite: consent of instructor. Conducted in Spanish.

575 Graduate Seminar: Spanish Drama (3)

Prerequisite: consent of instructor. Conducted in Spanish.

576 Graduate Seminar: Major Writers (3)

Prerequisite: consent of instructor. May be repeated for credit. Conducted in Spanish.

598 Thesis (3-6)

Prerequisite: recommendation of student's graduate committee.

599 Independent Graduate Research (1-3)

Prerequisites: fluency in Spanish and consent of instructor. Supervised research projects in Spanish language or literature. May be repeated for credit.

SWAHILI COURSES

101 Fundamental Swahili (4)

Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili.

102 Fundamental Swahili (4)

Prerequisite: Swahili 101 or equivalent. Intensive practice in listening comprehension, speaking and writing to master the basic structure of Swahili and the requisite skills for both oral and written communication. Conducted in Swahili.

DEPARTMENT OF GEOGRAPHY

FACULTY

Gertrude M. Reith

Department Chairman

Arthur Earick, Ronald Helin, William Ketteringham, Tso-Hwa Lee, Crane Miller, Leonard Pettyjohn, William Puzo, Robert Sager, Imre Sutton

The major in geography provides knowledge concerning variety and change in the earth's physical foundation and in man's economic, cultural and political relationship to that foundation. In doing so it contributes to a broad, liberal education and furnishes sound preparation for employment in business, planning, and government service. The field also provides a foundation for teaching on the elementary and secondary levels and for advanced geographic study on the graduate level leading to university and college teaching and research.

When planning his program, the student should know that departmental offerings are numbered according to both the instructional level and course content in the

following specific ways:

Instructional level

survey courses designed primarily for non-majors.	100-199
survey courses designed primarily for majors	200-299
courses designed for students with general needs and not normally applicable to graduate programs in geography	300–399
courses designed for students with special needs; prerequisites cited are strictly interpreted	400-499
courses for graduate students and qualified undergraduate students	500-599

Course content

general courses: 00-09 (e.g., Geog 100)

physical courses: 10-29 (e.g., Geog 211 or 323) regional courses: 30-49 (e.g., Geog 342 or 433)

human courses: 50-79 (e.g., Geog 150, 260, 367, or 477)

technical courses: 80-89 (e.g., Geog 381 or 484)

special studies: 90-99 (e.g., Geog 499)

BACHELOR OF ARTS IN GEOGRAPHY

Program of Study

The major consists of at least 36 units of geography, including no more than 13 units of lower division work and excluding all work applied toward the general education requirement. To fulfill the major a student must complete the geography core (Geography 100, 211, 250 and 260) and a 24 unit concentration in upper division geography, including at least one course from each of the following groups: Physical, Regional, Human, Technical.

No unit credit toward the major will be allowed for geography courses in which a grade of D is received. Content credit for such courses may be allowed by the

student's adviser.

TEACHING MINOR IN GEOGRAPHY

The minor in geography is intended as a second field for persons completing a major in another discipline in preparation for a teaching credential. It is designed to give a basic understanding of earth science and geographic relationships helpful to the classroom teacher. The program provides a balance between the physical and social sciences.

Geography

Recommended Program of Study

At least 21 units of work in geography, including

- (1) a minimum of 9 units from the geography core (Geog 100, 211, 250, 260).
- (2) a minimum of 9 upper division units, including work from at least three of the following: *Physical*, *Regional*, *Human*, *Technical*.

MASTER OF ARTS IN GEOGRAPHY

This program provides advanced study in geographic concepts, techniques and methods. Through seminars and research it develops the analytical and interpretive abilities of the student, and provides requisite background for employment in teaching, government and business.

Prerequisites

Admission to the program requires the equivalent of 27 semester units of geography distributed as follows: (1) nine units in introductory geography; (2) three units in upper division physical geography; (3) six units in upper division human geography; (4) six units in upper division techniques including three units in cartography and (5) three units in upper division regional geography. A 3.0 (B) average in all geography courses is required prior to classification in the program. Course or grade deficiencies may be made up with consent of the departmental graduate committee. After completion of all prerequisites and removal of deficiencies, if any, the student is reviewed for classification by the departmental graduate committee, which then supervises the student in the formulation of an official study plan.

Program of Study	Unit
Geography Seminars	9-1
Geography 597 (Project) or Geography 598 (Thesis)	6
Elective upper division or graduate geography, including three units of technique	9-6
Upper division or graduate work in related fields	6
Total	30

Candidacy is attained on the satisfactory completion, i.e., B or better in all, of 12 approved units of work, including at least three units in a 500-level geography seminar. A written or oral examination may be required for advancement to candidacy. Each candidate normally prepares two three-unit research projects, but, if recommended by the *student's* graduate committee, he may substitute a six-unit thesis. Students interested in foreign area studies are expected to demonstrate a proficiency in a suitable foreign language.

For further information, consult the Department of Geography.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

GEOGRAPHY COURSES

100 Man and the Land (3)

An introductory geography of the world, with emphasis on the world's major physical regions and their occupational development by man.

150 Environment in Crisis (3)

A geographic analysis and approach to the problems of man and his environment, dealing with man's interpretation of the environment and his use and misuse thereof. Factors of discussion will include population, nutrition, health, settlement, pollution, resource utilization and local environmental problems. Not acceptable on the geography major.

211 Physical Geography (4) (Formerly 206)

A study of the basic elements of the physical environment (e.g., weather, climate, landforms, oceans, vegetation and soils) and an analysis of their world distribution and interrelationships. (3 hours lecture, 2 hours activity)

250 Cultural Geography (3) (Formerly 210)

A topical examination of the evolutionary role of culture in the human occupancy of the earth, focusing on changing technological and organizational patterns in livelihood and settlement.

260 Economic Geography (3) (Formerly 233)

A systematic inquiry into the world distribution of economic activities: agriculture, extractive and manufacturing industries, transportation and tertiary services.

312 Geomorphology (3)

Prerequisite: Geography 211 or Earth Science 101. A study of the development of landforms and the processes which alter them.

323 Weather and Climate (3)

Prerequisite: Geography 211 or consent of instructor. A study of atmospheric elements and controls, climatic classification systems, and world climatic distributions.

330 Geography of California (3) (Formerly 431)

Description and analysis of the geographic regions of California—their environmental diversity, population distribution, economic development and current problems.

332 Geography of Anglo-America (3) (Formerly 432)

Prerequisite: Geography 100 or consent of instructor. A regional study of the United States and Canada emphasizing the interrelated physical and cultural features that give geographic personality both to the individual regions as well as the individual countries.

333 Geography of Latin America (3) (Formerly 434)

Prerequisite: Geography 100 or consent of instructor. A systematic and regional survey of Middle and South America with particular emphasis on the interrelationships of the physical and social factors of the area.

336 Geography of Europe (3) (Formerly 365)

Prerequisite: upper division standing. Description and analysis of physical environments and human occupance patterns in Europe west of the Soviet Union.

338 Geography of the Soviet Union (3) (Formerly 366)

Prerequisite: upper division standing. Character of and bases for the regional diversity of man and land in the Soviet Union.

340 Geography of Asia (3) (Formerly 435)

Prerequisite: Geography 100 or consent of instructor. A regional study of Asiatic nations, exclusive of the Soviet Union and Southwest Asia, showing the interrelationships of physical and cultural characteristics with special emphasis on the growing significance, in economic, social, and political terms, of such countries as China, India and Japan.

342 Geography of the Middle East (3) (Formerly 439)

Prerequisite: Geography 100 or consent of instructor. The physical foundations and cultural landscapes of civilization in the Middle East, with emphasis on contemporary political, socioeconomic, and cultural changes.

344 Geography of Subsaharan Africa (3) (Formerly 436)

Prerequisite: Geography 100 or consent of instructor. The physical, human, and regional geography of Africa south of the Sahara.

346 Australia and the Pacific Islands (3) (Formerly 445)

Prerequisite: Geography 100 or consent of instructor. The physical, cultural, and regional geography of Australia, New Zealand, Melanesia, Micronesia and Polynesia.

350 Conservation of the American Environment (3)

Prerequisite: upper division standing. A survey of resource-use problems and the principles of conservation, with discussions of philosophy, ethics, public policy, and environmental law.

355 Population Perspectives (3)

Prerequisite: upper division standing. An introduction to spatial analysis of demographic variables with an emphasis on the economic and social factors influencing population distribution and mobility. World patterns will be discussed with an emphasis on the United States.

367 Political Geography (3) (Formerly 481)

Prerequisite: Geography 210 or consent of instructor. The political map of the world with special reference to the geopolitical structure of states, dependencies, and other politically organized areas.

370 Urban Geography (3)

Prerequisite: upper division standing. The city as a geographic unit; urban settlements as regional centers; city-region relationships; the structure of villages, towns and cities, and their historical development; case studies.

380 Maps and Map Interpretation (3) (Formerly 343)

Interpretation, evaluation, uses, and sources of various types of maps and graphic aids for teaching and research. (2 hours lecture, 2 hours activity)

381 Cartography (3) (Formerly 478)

Prerequisite: geography core or consent of instructor. Compilation and construction of maps and graphs as geographic tools, with emphasis on the principles of effective cartographic representation. (1 hour lecture, 6 hours laboratory)

430 Problems of California Geography (3) (Formerly 463)

Prerequisite: Geography 330 or consent of instructor. A seminar analyzing selected geographic problems of California, such as urbanization, transportation, water supply and pollution.

433 Man and Geographic Relationships in Latin America (3) (Formerly 464)

Prerequisite: Geography 333 or consent of instructor. A seminar for advanced students in Latin American Studies or Geography. Studies of contemporary interest dealing with man and his development in the area of Latin America. Specific content of the course will vary from year to year, but major stress will be placed upon the larger countries of the region.

453 Cultural Ecology (3)

Prerequisite: Geography 250 or Anthropology 202, or consent of instructor. A senior seminar in the ecological approach to man in nature. (Same as Anthropology 453)

472 Urban Growth and Planning (3)

Prerequisite: Geography 370 or consent of instructor. A senior seminar on urban development with an emphasis on the decentralizing forces operating in contemporary urban space; identification of trends in the planning process.

477 Historical Geography (3) (Formerly 483)

Prerequisite: geography core or consent of instructor. A seminar analyzing significant geographic influences on selected aspects of American history.

482 Problems of Map Compilation and Design (3) (Formerly 480)

Prerequisite: Geography 381 and consent of the instructor. Application of photographic techniques and cartographic analysis to advanced problems in map compilation and design. (1 hour lecture, 6 hours laboratory)

484 Airphoto and Image Interpretation (3) (Formerly 479)

Prerequisite: junior, senior or graduate standing and consent of instructor. Use of aerial photography, space photography and other remote sensors as tools and research sources. Emphasis on interpretation of physical and cultural elements of the landscape. (2 hours lecture, 2 hours activity)

485 Quantitative Geography (3)

Prerequisite: geography core or consent of instructor. An introduction to spatial analysis and geographic application of basic concepts of descriptive and inferential statistics. Includes some use of the electronic computer. (2 hours lecture, 2 hours activity)

488 Field Methods (3) (Formerly 475)

Prerequisite: senior or graduate standing and completion of the geography core. Consent of the instructor is required. Analysis and interpretation of urban and rural land use and settlement with specific references to geographic field problems. The course involves application of geographic techniques and tools to local field studies. Saturday field sessions.

499 Independent Study (1-3)

Open to advanced students. Student must have permission of instructor under whom study will be undertaken before enrolling. May be repeated once for credit.

500 Seminar in the Evolution of Geographic Thought (3)

Prerequisite: graduate standing or consent of instructor. An inquiry into the nature, scope, and development of the geographic discipline.

530 Seminar in Regional Geography (3) (Formerly 513)

Prerequisite: graduate standing or consent of instructor. A seminar on selected regions or selected topics within a regional setting. May be repeated once for credit.

550 Seminar in Human Geography (3) (Formerly 523)

Prerequisite: graduate standing or consent of instructor. A seminar on selected topics pertaining to cultural, political or social geography. May be repeated once for credit.

Geography

560 Seminar in Resource Geography (3) (Formerly 533)

Prerequisite: graduate standing or consent of instructor. A seminar on selected problems in resource utilization, land use planning and economic geography. May be repeated once for credit.

587 Geographic Research and Presentation (3) (Formerly 490)

Prerequisite: graduate standing or consent of instructor. A seminar workshop in research methods, writing, editing, manuscript preparation, and presentation. Recommended that students take Geography 597 or 598 concurrently.

597 Project (3)

May be repeated for a maximum of 6 units of credit.

598 Thesis (3-6)

Prerequisite: recommendation of the student's graduate committee. May be repeated for a maximum of 6 units of credit.

599 Independent Graduate Research (1-3)

Open to graduate students by consent of instructor. May be repeated for credit.

DEPARTMENT OF HISTORY

FACULTY

B. Carmon Hardy

Department Chairman

George Baker, Gordon Bakken, Warren Beck, Leland Bellot, Lauren Breese, Giles Brown,* Lawrence de Graaf, Jack Elenbaas, George Etue, Robert Feldman, Thomas Flickema, Charles Frazie, George Giacumakis, Arthur Hansen, Harry Jeffrey, James Jordan, Frederic Miller, Michael Onorato, David Pivar, Charles Povlovich,* Jackson Putnam, Ronald Rietveld, Danton Sailor, Seymour Scheinberg, Gary Shumway, Cameron Stewart, Ernest Toy,* David Van Deventer, Shirley Weleba, Nelson Woodard, Kinji Ken Yada, Ka-Che Yip, Cecile Zinberg

BACHELOR OF ARTS IN HISTORY

The undergraduate major in history is designed to provide cultural enrichment, a sense of alternative, and perspective on both the present and the future. The department offers a wide variety of offerings which expose the student to man's rich and diverse experience. This major may be pursued to fulfill various professional and cultural objectives common to a liberal arts program. It serves, especially, as a preparation for teaching, law, government, and other public services, and as the foundation for advanced study at the graduate level.

The major is composed of a minimum of 24 units in the upper division, plus the basic courses in world civilizations (History 110A-110B) and United States History (History 170A-170B). The basic courses may also be used to meet general education requirements. Students majoring in history are encouraged to include in their lower division programs some work in such fields as anthropology, economics, geography, literature, philosophy, political science and sociology.

Students intending to do graduate work in history should acquire a reading knowledge of at least one foreign language appropriate to the pursuit of advanced

research in a field of history.

The 24 units of upper division courses required for the major must include:

History 399 Historiography (3 units)

Six units in United States history

Six units in European history (from ancient Greece to modern times)

Six units in the history of Asia, Africa, or Latin America

TEACHING MINOR IN HISTORY

The teaching minor in history is composed of at least 20 units in history exclusive of the general education requirements:

Recommended teaching minor:	Units
World civilization (or equivalent)	6
Upper division work in history	15
	-
Total	. 21

MASTER OF ARTS IN HISTORY

The Master of Arts in History is designed to improve the student's academic and professional competence for educational services at the elementary, secondary and junior college levels as preparation for advanced graduate work toward the doctoral degree in history. It is relevant to various other specialties in public or private enterprise and general cultural or community service. The program aims to deepen the students understanding of the human condition through a careful study of human experience.

^{*} College administrative officer.

History

Prerequisites

Prerequisite to this master's degree is an undergraduate major in history with at least a GPA of 3.0 in the upper division history courses. Each student's background and record are evaluated by the coordinator. Satisfactory scores on the aptitude test and the advanced test in history of the Graduate Record Examination are required.

Students with limited subject, grade, or breadth deficiencies may be considered for admission to the program upon completing courses approved by the Graduate Coordinator in History in addition to those required for the degree, with at least

a B average.

Program of Study

Of the 30 units of adviser-approved graduate courses on the study plan for the degree, 18 must be in appropriate work at the 500-level, and six must be in other supportive social sciences or related fields. The required courses are:

Hist 501 Seminar in the Content and Method of History (3 units)

Hist 590 History and Historians (3 units)

A. Plan I:

A primary focus in one area in which a field is intensively developed. This results in a specific topic of research with a written thesis as the final product (History 598, Thesis, 3 to 6 units).

An oral examination on the thesis and the coursework will be required upon completion of the coursework but prior to the final draft of the thesis.

B. Plan II:

The focus in this plan is in two fields not found in the same general area. There is a minimum requirement of one graduate research seminar besides History 501 and 590. There is also a minimum requirement of one graduate reading seminar in the recent interpretations of history in the particular fields of interest.

A written comprehensive in each of the two fields will be required upon com-

pletion of the program.



Students in this program must demonstrate a broad cultural understanding of one or more foreign countries of import to the master's degree study program. This requirement may be met by a reading knowledge of an appropriate foreign language or an approved selection of comparative studies (12 units post B.A.), but the method must be approved by the student's adviser. In certain programs an examination in statistics may be substituted for the language requirement.

For further information, consult the Department of History.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

HISTORY COURSES

110A World Civilizations to the 17th Century (3)

The story of man from the beginning of civilizations and historical records until the middle of the 17th century.

110B World Civilizations from 1648 (3)

The story of man from the end of the religious wars to the present. Deals with the rise of science, the Enlightenment, the Industrial Revolution, and the rise of the ideologies of the 20th century.

170A United States to 1877 (3)

A survey of the political, social, economic, and cultural development of the United States from the discovery to 1877. Attention is given to the Old World background, the rise of the new nation, sectional problems, and the Civil War and Reconstruction. Satisfies the state requirement in U.S. History.

170B United States Since 1877 (3)

A survey of United States history from the late 19th century to the present. Attention is given to economic transformation, political reform movements, social, cultural, and intellectual changes, and the role of the United States in world wars. Satisfies the state requirement in U.S. History.

340A History of England and Great Britain (3)

A study of the political, economic, and social history of medieval and Tudor-Stuart England. Particular stress is placed on institutional and cultural changes from the Conquest to the Glorious Revolution.

340B History of England and Great Britain (3)

A study of the political, economic, and social history of Great Britain from the later Stuarts to the present. Particular stress is placed upon the modification of the parliamentary system and the growth of economic and social democracy within Britain and upon the development of responsible political systems in the dependent territories.

350A Colonial Latin America (3)

A survey of the pre-Columbian cultures; the conquests by Spain and Portugal and the European background of these countries; the development of the socio-economic, cultural, and governmental institutions in colonial life; the background of revolutions and the wars for independence.

350B Republican Latin America (3)

A survey of the Latin American republic since 1826, emphasizing the struggle for responsible government, socioeconomic, and cultural changes, and the role of United States foreign policy.

353

383 History of California (3)

A survey of the political, economic, and social history of California from the aboriginal inhabitants to the present, tracing the development of contemporary institutions and the historical background of current issues.

399 Historiography (3)

Introduction to nature and discipline of history. A study of methods of historical research and writing, of bibliography, and of major problems of historical interpretation. Required of history majors.

401 European Intellectual History from 1500 to the Present (3)

Prerequisite: consent of instructor. The history of the competing ideas in European history from 1500 to the present which have entered into the formation of modern European institutions.

412A Ancient Near East-Mesopotamia (3)

Prerequisite: History 110A. A study of the political, socioeconomic, religious, and literary history of Mespotamian culture from the rise of the Sumerian city-states to Alexander the Great, a period of over three millenia. This will include discussion of the Sumerians, Assyrians, Babylonians, Hurrians, and Persians.

412B Ancient Near East-East Mediterranean (3)

Prerequisite: History 110A. A study of ancient Egypt from early dynastic times in the third millennium B.C. to the conquest of Alexander the Great. The history of the Syro-Palestinian region will be studied in light of its migrations and international culture. A careful study of the Hebrews and their contributions to modern civilization will be included.

415A Classical Greece (3)

Prerequisite: History 110A or consent of instructor. A study of the civilization of ancient Greece. This course traces the rise and flourishing of the classical city-states; considerable attention is devoted to the literary and philosophic contributions to our modern civilization.

415B Hellenistic Civilization (3)

Prerequisite: History 110A or consent of instructor. A study of the Hellenistic synthesis and the new patterns in government, the arts and sciences, philosophy and literature that appeared between the Macedonian conquest and the intervention of Rome.

417A Roman Republic (3)

Prerequisite: History 110A or consent of instructor. A study of the development of Roman social and political institutions under the republic.

417B Roman Empire (3)

Prerequisite: History 110A or consent of instructor. A study of Roman imperial institutions and culture. Attention is also given to the rise of Christianity.

419 The Byzantine Empire (3)

The rise and fall of Byzantium from the 4th century A.D. until the 15th century A.D. This will include a study of Byzantine society and its contribution to the world.

423A Medieval Europe, 300-1050 (3)

Prerequisite: History 110A. The genesis of European society and culture from the decline of Rome to the mid-11th century: the medieval church, the Barbarian migrations, the Byzantine and Islamic cultures and the establishment of feudalism in western Europe.

423B Medieval Europe, 1050-1400 (3)

Prerequisite: History 110A. A continuation of History 423A. The struggle between church and state, the rise of feudal monarchies and the intellectual, scientific and artistic expressions of European civilization in the later Middle Ages.

425A The Renaissance (3)

The history of Europe from 1400 to 1525 with emphasis upon the beginnings of capitalism, the beginnings of the modern state, humanism, the pre-Reformation and the church on the eve of the Reformation.

425B The Reformation (3)

The history of Europe from 1525 to 1648; deals with the Protestant and Catholic Reformations; the religious wars; the price rise; royal absolution; the rise of science.

426 Rise of Modern Europe, 1648-1763 (3)

Prerequisite: History 110B. European diplomatic history and the balance of power from 1648 to 1763. Attention is given to the social and philosophical developments of the period.

427 Europe in the Era of the French Revolution and Napoleon (3

A survey of European history from 1763 to 1815. Emphasis is placed on the politics, society, and culture of the Old Regime, the influence of the Enlightenment, the impact of the French Revolution on Europe, and the establishment of French hegemony by Napoleon.

428 19th-Century Europe (3)

Europe from 1815 to 1914. An examination of the political, economic, social, and cultural trends in European history from the Congress of Vienna to the outbreak of World War I. Special attention is given to the emerging forces of nationalism, liberalism, socialism, and secularism.

429 Europe Since 1914 (3)

Prerequisite: History 110B. Survey of events from the beginning of World War I to the present. Special emphasis given to the economic, political, social, diplomatic, and intellectual trends of 20th century Europe.

432 Germany Since 1648 (3)

Prerequisite: History 110A,B. The evolution of Germany from the Peace of Westphalia to the present. Emphasis is placed on political, social, economic, diplomatic and cultural trends in the 19th and 20th centuries.

434A Russia to 1890 (3)

Prerequisite: History 110B. An analysis of the historical developments from the establishment of the Russian state at Kiev through the great reforms, the revolutionary movement and reaction of the 19th century. Emphasis is placed upon the shaping of contemporary Russia.

434B The Russian Revolutions and the Soviet Regime (3)

Prerequisite: consent of instructor. An evaluation of the 1905 and 1917 revolutions and the subsequent consolidation of power under the Communist regime. Chief emphasis is placed upon the continuity and change in Russian social, political, cultural institutions and foreign policy effected by the impact of Marxist-Leninist-Stalinist ideology.

437 East Europe Since 1500 (3)

The political, social, economic, and cultural history of the peoples of East Central Europe from 1500 to the present.

439 History of Spain (3)

Development of Hispanic civilization from the earliest times to the present.

450 Change in Contemporary Latin America (3)

An analysis of political, social and economic change in present-day Latin America.

453A Mexico to 1910 (3)

A history of Mexico from the pre-Columbian period to 1910. The course stresses the Indian heritage, the impact upon the native civilizations of the Spanish Conquest and the blending of Hispanic Institutions with those of the first Mexicans. The uniqueness of Mexican culture in the world as expressed in its art, literature, religion and philosophy will be examined in detail.

453B Mexico Since 1910 (3)

A study of the background of the Mexican Revolution of 1910 and the revolution itself from 1910 to 1921 stressing the political, economic, and social features; special attention will be paid to the Revolution as the first of the great upheavals of the 20th century and the relationship of the United States to Mexico during these turbulent years. The quest for political stability in the 1920s and 1930s along economic and social changes will be studied but stress will also be placed on cultural renaissance of modern Mexico.

454 Argentina, Brazil, Chile (3)

A history of Argentina, Brazil, and Chile, with special attention to Chile.

456 Tropical Africa to 1900 (3)

The history of tropical Africa from earliest times to the colonial era.

457 Tropical Africa in the 20th Century (3)

A study of the impact of the colonial period upon the peoples of tropical Africa including a comparative analysis of the various systems of colonial administration; the factors contributing to the rise of African nationalism and the achievement of independence; and the problems encountered by these new nations.

458A Southern Africa from Earliest Times to the 20th Century (3)

A study of the culture and history of the indigenous peoples of southern Africa; and the development and impact of European interests in this area with particular emphasis on the history of South Africa to the Union of 1910.

458B Southern Africa in the 20th Century (3)

A survey of 20th-century developments in the Union (Republic) of South Africa, Central Africa (the Rhodesias and Nyasaland) and the Portuguese colonies with emphasis on the political, economic and social ramifications of race relations.

460 Problems of the Contemporary Far East (3)

A topics course dealing with events in the major Far Eastern nations since World War II, with emphasis upon problems of nationalism, communism and economic development in China, Japan, Korea and Southeast Asia.

461A The Far East (3)

An introductory examination of Chinese and Japanese history from ancient times to the middle of the 19th century, with particular emphasis on social, intellectual and economic developments.

461B The Far East (3)

An introductory examination of Chinese and Japanese history from the middle of the 19th century to the 1950s, concentrating especially on the Western intrusion and the rise of nationalism and communism.

462A History of China (3)

Chinese history from ancient times to the middle of the 17th century, with special attention to the development of society, thought, economy and political institutions.

462B History of China (3)

Chinese history from the middle of the 17th century to the 1950s. A study of China's internal developments and foreign intrusion, with special attention to the rise of modern Chinese nationalism and intellectual developments in the Republican period, as well as the attempts at modernization and the triumph of communism.

463A History of Japan (3)

A study of the social, political, and economic history of Japan until 1868, with emphasis upon the Tokugawa era.

463B History of Japan (3)

A study emphasizing the rise of the modern Japanese state, Japanese imperialism and the postwar era.

464A Southeast Asia in the Modern World (3)

A study of the social, political, and economic development in Southeast Asia from 1500 to the establishment of the colonial empires of the West in the 19th century.

464B Southeast Asia in the Modern World (3)

A study of Southeast Asia under the impact of imperialism and the effects of decolonization.

465A History of India from the Beginning Through the Delhi Sultanate 1526 (3)

A survey of the history of the Indian subcontinent from the earliest times to the fall of the Delhi Sultanate 1526.

465B History of India from the Mughal Through the British Period, 1526–1857 (3)

A survey of the history of the Indian subcontinent from the fall of the Delhi Sultanate up to the Indian Mutiny of 1857.

466A Arab Islamic Age (3)

Prerequisite: History 110A. The study of the events transpiring in the Middle East from the Roman world to the period of the Crusades. This will include the impact of the Islamic civilization upon the Middle East society.

466B The Turkish World (3)

Prerequisite: History 110B. The development of the countries of the Middle East following the Crusades to the present. This will include the Ottoman Empire, European colonialism in the Middle East, and the modern Middle East.

467 The Past and the Present in the Middle East (3) (Offered during some summer sessions only)

This course is a study tour to one of three geographical areas in the Middle East. The three areas which will be visited during three different summer periods of 22 days each, are: North Africa consisting of Morocco, Algeria, Tunisia, Libya and Egypt; the East Mediterranean consisting of Greece, Lebanon, Jordan, Israel and Egypt; and Turkey, Iraq and Iran. The objective of these study tours goes well beyond a visitation of important historical and archaeological sites, and stresses continuities and relationships of the past to the contemporary scene.

468 Contemporary Middle East (3)

A study of the social, political and economic changes taking place in the Middle East primarily since World War I. Where possible the Middle East will be treated as a whole and viewed through a topic-oriented approach.

470 American Colonial Civilization (3)

Prerequisite: History 170A or consent of instructor. This course surveys the settlement of North America and the growth of Anglo-American civilization to the mid-18th century stressing the creation of political, economic, and social institutions and a distinctive American culture.

471 United States from Colony to Nation (3)

Prerequisite: History 170A or consent of instructor. This course surveys the political, economic, and intellectual developments of 18th-century America with special emphasis upon Anglo-American imperial problems leading to the Revolution, the origins of American nationalism, the creation of a constitutional republic, and the rise of a party system.

472 Jeffersonian Themes in American Society, 1800-1861 (3)

Prerequisite: History 170A or consent of instructor. Analyzes Jeffersonian values and their impact upon the social, political and cultural life of the nation during the era of their greatest relevance.

473 Democracy on Trial 1845-1877 (3)

Prerequisite: History 170A or consent of instructor. The study of America's "great national crisis" and the impact of slavery, civil war and national reconstruction upon the democratic process of the republic.

474 America in the Age of the Industrial Revolution (1876–1914) (3)

A study of the maturation of the American industrial economy and its transforming impact upon class structure, politics, intellectual and cultural life, and diplomacy. Special consideration is given to the attempts made in the Progressive years to cope with the changes wrought by the Industrial Revolution.

475 America Comes of Age, 1914-1945 (3)

A multi-topic analysis of major trends in U. S. domestic policy, foreign policy, economy and society from World War I through World War II. Course will concentrate on conflicting values and ideals of domestic policy and U.S. role in world affairs.

476 Age of Power, Affluence and Anxiety Since 1945 (3)

Multi-topic analysis of U. S. history from 1945 to the present stressing the interrelationship of foreign policy, economic prosperity, domestic tensions and protest movements.

479 The Emergence of Urban America (3)

A study of the historical development of urban life in America with special emphasis on the process of urbanization and the development of urban and sub-urban cultures.

481 Westward Movement in the United States (3)

Prerequisite: History 170A,B or equivalent. A survey of the expansion of the United States population and sovereignty from the eastern seaboard to the Pacific, colonial times to 1900, and a history of regional development during the frontier period.

482A Socioeconomic History of the United States (3)

Prerequisite: History 170A or consent of instructor. The course explores the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The first semester covers the development of a colonial economy and the early national economy.

482B Socioeconomic History of the United States (3)

Prerequisite: History 170B or consent of instructor. The course continues to explore the interaction of social and economic factors upon each other in the development of American society. Special attention is given to the role of business and labor in economic change. The second semester begins with the "takeoff stage of economic development" and ends with contemporary America.

484A American Constitutional History to 1865 (3)

Prerequisite: History 170A. English and colonial origins, the growth of democracy, the slavery controversy, and the sectional conflict as they reflect constitutional development.

484B American Constitutional History from 1865 (3)

Prerequisite: History 170B. Constitutional problems involved in the post-Civil War era, the expansion of business, World War I, the New Deal, World War II, and civil rights in the postwar era.

485A United States Foreign Relations to 1900 (3)

A comprehensive survey of the foreign relations of the United States from the beginning of the nation until 1900. Particular attention is given to bases of policy, critical evaluation of major policies and relationships between domestic affairs and foreign policy.

485B United States Foreign Relations from 1900 (3)

Relations from 1900 to the present. An analysis of the rise of the United States as a world power in the 20th century with special emphasis on the search for world order and the diplomacy of the atomic age.

486A Social and Intellectual History of the United States (3)

A study of the social and intellectual development of the United States from the Puritans to the Civil War.

486B Social and Intellectual History of the United States (3)

A study of the social and intellectual development of the United States from the Civil War to the present.

487A History of Politics in American Society (3)

Prerequisite: History 170A,B or consent of instructor. The first semester of this course traces political developments from the Colonial Period to the end of the Civil War. Its primary focus is upon political patterns of behavior, institutional development and the response of the American political system to changing societal demands and needs.

487B History of Politics in American Society (3)

Prerequisite: History 170A,B or consent of instructor. The second semester of the course traces political developments from Reconstruction to Lyndon Baines Johnson. Its primary focus is upon political patterns of behavior, institutional development and the response of the political system to changing societal demands and needs.

488A American Negro From Slavery to Jim Crow (3)

A history of black Americans from African backgrounds through the era of slavery and the Civil War to the post-Reconstruction era.

359

488B American Negro Since 1890 (3)

History of black Americans from Booker T. Washington to present, stressing both their culture and role in American life and the issues involved in their relations with other segments of the population in various regions.

489 The Mexican-American in the Southwest (3)

Historical role of the Mexican-American in the Southwest stressing the cultural uniqueness, contributions, with special emphasis upon migration, education, and economic changes since 1945.

491 Proseminar in Special Historical Topics (3)

Intensive study of trends, phenomena, themes or periods of history involving occasional lecture, discussion, directed reading, and student research.

492A Community History (3)

Prerequisite: consent of instructor. A study of the historical development of communities in general, and of the Orange County area in particular. Special emphasis on the techniques of gathering and processing local historical data including oral interviews and other archival materials.

492B Community History (3)

Prerequisite: History 492A. Community history studies continued. Special emphasis is on the gathering, editing and utilization of local community history documents.

499 Independent Study (1-3)

Open to advanced students in history with the consent of the department chairman. May be repeated for credit.

501 Seminar in the Content and Method of History (3)

Prerequisite: consent of the instructor.

505 Seminar in Analysis of Recent Interpretations in History (3)

Prerequisite: consent of the instructor.

520 Seminar in European History (3)

Prerequisite: consent of the instructor.

550 Seminar in Latin American History (3)

Prerequisite: consent of the instructor.

560 Seminar in Afro-Asian History (3)

Prerequisite: consent of the instructor.

570 Seminar in American History (3)

Prerequisite: consent of the instructor.

585 Seminar in the History of United States Foreign Relations (3)

Prerequisite: consent of the instructor.

590 History and Historians (3)

Prerequisite: consent of instructor. A study of the writings, personalities, and philosophies of representative historians from Herodotus to the present.

598 Thesis (3 or 6)

Prerequisite: consent of instructor. May be repeated for credit.

599 Independent Graduate Research (1-3)

Open to graduate students in history with the consent of the department chairman. May be repeated for credit.

DEPARTMENT OF LINGUISTICS

FACULTY

David M. Feldman
Department Chairman

Ralph Beckett (Speech Communication), Samuel Cartledge (Foreign Languages), Lawrence Christensen (Anthropology), Seth Fessenden (Speech Communication), Barbara Harris (Speech Communication), Joseph Kalir, Donald Kaplan (Speech Communication), Mary Key, Harvey Mayer (Foreign Languages), Max Nelson (Speech Communication), Otto Sadovszky (Anthropology), James Santucci, Clarence Schneider (English), Donald Sears (English), Richard See (Anthropology), Frank Verges (Philosophy), Jon Zimmermann (Foreign Languages)

Linguistics is the scientific study of language—its nature and development, its universal properties, its diversified structures and their dialectal variants, its acquisition by children and non-native speakers, its systems of writing and transcription, its cultural role in the speech community, and its application to other areas of human knowledge. As such, it is concerned with the multiple aspects of human communicative behavior which encompass thought, symbolization, language, meaning, acoustics, perception and the physiological processes of utterance and audition.

The interdisciplinary aspects of this study are reflected in the organization of the program which not only offers its own core of general linguistics courses but draws widely upon linguistically-related courses in other departments of the

college.

BACHELOR OF ARTS IN LINGUISTICS

This program is designed for students with an exceptional interest in and aptitude for the study of the systems of human communication. It enables the undergraduate student to perceive the function of language in the development of civilization; to understand the essential relationships between language and thought and language and culture; to gain substantial familiarity with the structure of foreign languages as well as English; to observe several types of linguistic structures; and to become conversant with the historical study of language and formal techniques and theoretical foundations of linguistic analysis. The program will enable the student with linguistic and philological interests to grasp the scope of the entire field and, in addition, to determine more accurately the most meaningful concentrations in graduate study.

Lower Division Requirements

One year of Latin, Greek, Hebrew or Sanskrit (6) Anthropology 202 Introduction to Cultural Anthropology (3) Philosophy 210 Logic (3)

Upper Division Requirements (minimum of 30 units)

317 course in a modern foreign language (3)

Linguistics 341 Introduction to Phonetics (3)

Linguistics 404 General Semantics (2)

Linguistics 406 Descriptive Linguistics (3)

Linguistics 410 Language and Culture (3)
English 490 History of the English Language (3)

Linguistics 490 Linguistics in Relation to Other Disciplines (1-4)

Linguistics 530 Historical Linguistics (3)

Linguistics

Two electives (or more) from the following:

Communications 425 History and Philosophy of American Mass Communication (3)

Education 312 Human Growth and Development (3)

Education 380 The Teaching of Reading (3) English 303 Structure of Modern English (3)

English 305 American Dialects (3)

French, German, Russian or Spanish Course 400 (3)

French, German, or Spanish 466 Course (3)

Linguistics 375 The Philosophy of Language (3)
Linguistics 402 Phonetic Analysis of Speech (3)

Linguistics 403 Speech and Language Development (3)

Linguistics 411 Bilingualism (3)

Linguistics 412 Sociolinguistics (3)

Mathematics 304 Mathematical Logic (3)

Philosophy 450 Seminar in Philosophy of Language (3)

Physics 405 Acoustics (4)

Psycholgy 415 Cognitive Processes (3)

Quantitative Methods 364 Computer Logic and Programming (3)

Speech Communication 304 Message Reception and Analysis (3)

Speech Communication 340 Speech Science (3)

Students must consult with an adviser in linguistics before establishing their individual programs of study.

MASTER OF ARTS IN LINGUISTICS

The M.A in Linguistics is designed for students who have exceptional interest in and aptitude for the study of the systems of human communication, reinforced by undergraduate study in linguistics and allied areas, such as foreign languages, English language, anthropology, speech communication and related areas in psychology and philosophy. It enables the graduate student to study in depth the position and function of human communication systems in the development of civilization; to understand more fully the essential relationships between thought, language and culture; to deepen mastery of the structure of foreign languages as well as English; to work intensively with several types of linguistic structures with special attention to non-Indo-European languages; and to increase expertise in the historical study of language and formal techniques and theoretical foundations of linguistic analysis.

The core courses of the program are devoted to an in-depth consideration of descriptive, historical and applied linguistics. The remainder of the program combines advanced work in: the theory of phonemic; morphological and syntactical analysis; articulatory and experimental phonetics; semantics; lexicology; dialectology; language typology; and field methods, in which the procedures of the linguist working under field conditions are demonstrated by the analysis of several languages elicited from informants. A variety of approaches to descriptive analysis and several theoretical points of view, both American and European, including generative grammar, transformational analysis and prosodics are presented. A series of courses on the structure of individual languages, both ancient and modern, provides opportunities for applying the general principles of structural analysis and for establishing linguistic data by elicitation from informants and analysis of written records. The languages examined will be drawn from a wide variety of language families including the more familiar members of the Indo-European group, General courses in comparative linguistics and comparison within individual language families review methods of establishing genetic relationships among languages. The geographical diffusion of linguistic features and problems of language contact are studied by examining areal groupings of genetically unrelated languages. The relationship between linguistics and other disciplines and the application of the techniques, findings, and insights of that science to such activities as language teaching are treated in interdisciplinary courses and seminars.

The aim of the graduate program in linguistics, as reflected in the course offerings, is to provide thorough and well-balanced training for practice and research in the several areas of linguistic studies and to prepare qualified students for careers in the communication sciences and allied disciplines.

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arsework in descriptive, historical and structural linguistics	13
inguistics 501 Research Methods and Bibliography (1)	
inguistics 505 Phonetics and Phonemics (3)	
inguistics 507 Seminar: Morphosyntax (3)	
inguistics 508 Theories of Syntax (3)	
inguistics 530 Historical Linguistics (3)	
arsework selected from any one of the following six areas of subspe-	
ialization, including other courses in the department with the approval	
f the adviser	9
pplied Linguistics	
nglish 303 The Structure of Modern English (3)	
inglish 599 Independent Graduate Research (1-3)	
oreign Languages Ed 520 Advanced Seminar in Applied Linguistics (3)	
rench 466 Introduction to French Linguistics (3)	
rench 599 Independent Graduate Research (1-3)	
German 466 Introduction to German Linguistics (3)	
German 599 Independent Graduate Research (1-3)	
inguistics 403 Speech and Language Development (3)	
inguistics 411 Bilingualism (3)	
inguistics 412 Sociolinguistics (3)	
inguistics 529 Linguistic Ontogeny (3)	
inguistics 575 Graduate Seminar: Current Issues in Linguistics (3)	
inguistics 584 Linguistics and Reading (3)	
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Linguistics

French 530 Historical Linguistics (3)	
German 530 Historical Linguistics (3)	
Spanish 530 Historical Linguistics (3)	
French 520 Old French (3)	
English 570 Graduate Seminar: Language Studies (3)	
English 599 Independent Graduate Research (1-3)	
Spanish 599 Independent Graduate Research (1-3)	
French 599 Independent Graduate Research (1-3)	
German 599 Independent Graduate Research (1-3)	
Linguistics 565 Graduate Seminar: Major Language Families (3)	
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Eniguistics 377 Independent Graduate Research (1-3)	
Experimental Phonetics	
Linguistics 402 Phonetic Analysis of Speech (3)	
Linguistics 403 Speech and Language Development (3)	
Linguistics 540 Seminar in Experimental Phonetics (3)	
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)	
Linguistics 599 Independent Graduate Research (1-3)	
Physics 405 Acoustics (4)	
Speech Communication 543 Major Problems in Speech Pathology and Aud	lio
ogy (3)	
Speech Communication 599 Independent Graduate Research (1-3)	
Brench 466 Introduction to French Linguistics (3) seems in coursers line	
Communication and Semantics	
Anthropology 599 Independent Graduate Research (1-3)	
Linguistics 411 Bilingualism (3)	
Linguistics 412 Sociolinguistics (3)	
Linguistics 504 Graduate Seminar: Semantics (3)	
Linguistics 515 Psycholinguistics (3)	
Linguistics 529 Linguistic Ontogeny (3)	
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)	
Linguistics 584 Linguistics and Reading (3)	
Linguistics 599 Independent Graduate Research (1-3)	
Philosophy 450 Seminar: Philosophy of Language (3)	
Speech Communication 599 Independent Graduate Research (1-3)	
Disorders of Communication	
Linguistics 403 Speech and Language Development (3)	
Linguistics 515 Psycholinguistics (3)	
Linguistics 529 Linguistic Ontogeny (3)	
Linguistics 540 Seminar in Experimental Phonetics (3)	
Linguistics 575 Graduate Seminar: Current Issues in Linguistics (3)	
Linguistics 599 Independent Graduate Research (1-3)	
Speech Communication 441 Speech Pathology: Nonorganic Disorders (3)	
Speech Communication 443 Speech Pathology: Organic Disorders (3)	
Speech Communication 451 Diagnostic Methods in Speech and Hearing (3)	1
Speech Communication 452 Therapeutic Procedures in Speech and Ho	
ing (3)	Ca
Speech Communication 463 Audiology (3)	
Speech Communication 464 Audiometry (3)	
Speech Communication 557A-I Seminar in Speech Pathology (3)	
Speech Communication 563 Seminar in Audiology (3)	
Speech Communication 599 Independent Graduate Research (1-3)	
Coursework in a related field	6
Linguistics 597 Project (2)	2
The second secon	_
Total	30
	-

A minimum of 15 units in 500-level courses is required. Also, satisfactory completion of written and oral comprehensive examinations will be required at the conclusion of the program.

Admission to the Graduate Program

In addition to fulfilling all general prerequisites for graduate work established at California State College, Fullerton, an applicant, in order to gain admission to this program, must hold a bachelor's or equivalent degree with a major in linguistics consisting of 24 upper division semester credit hours, or equivalent, in the field, with grades testifying to above-average scholarship from an accredited institution. Those having degrees with other related majors may be admitted if they have completed the following courses or their equivalents. These prerequisites may be fulfilled concurrently with graduate coursework in the program.

Linguistics 406 (3)

English 490 (3)

Linguistics 410 (3)

Linguistics 490 (1)

Knowledge of one foreign language is required. Students without coursework in a foreign language may demonstrate proficiency by a score of "average" or better on the MLA-ETS Proficiency Examination for Advanced Students. Work toward fulfillment of this requirement may be taken concurrently with graduate coursework in linguistics.

For further information, consult the graduate coordinator of the Department of

Linguistics.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

LABORATORY FOR PHONETIC RESEARCH

See description appearing on page 38.

For further information, consult the chairman of the Department of Linguistics. See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

LINGUISTICS COURSES

301 Sanskrit (3)

An introduction to the Sanskrit language, emphasizing the acquisition of reading fluency. The *devanagari* script, phonology, morphology and syntax will be examined in depth, along with relevant points on Hindu culture and on the place of Sanskrit in the development of the Indo-European language family.

302 Sanskrit (3)

Prerequisite: Linguistics 301 or equivalent. Continuation of 301, concentrating on the intensive and extensive reading of Sanskrit texts. Further development of the relationship between the Sanskrit language and Hindu culture will be complemented by an in-depth treatment of the genetic and typological relationships between Sanskrit and other languages of the Indo-European family. Special attention will be given to paleographic techniques and graphemics.

341 Phonetics (3)

(Same as Speech Communication 341, Theatre 341)

375 Philosophy of Language (3)

(Same as Philosophy 375)

402 Phonetic Analysis of Speech (3)

(Same as Speech Communication 402)

Linguistics

403 Speech and Language Development (3)

(Same as Speech Communication 403)

404 General Semantics (3)

(Same as Speech Communication 404)

406 Descriptive Linguistics (3)

Introduction to the nature of human linguistic behavior. Phonological, morphological, and syntactic structures of languages are examined through the use of techniques developed for the description of such structures.

410 Language and Culture (3)

(Same as Anthropology 410)

411 Bilingualism (3)

The study of the personal and social development of non-English speaking communities as reflected in the conflict between the language of the home and the language of the community. Special emphasis is placed on the Spanish-speaking communities of California and on the need for and means of achieving bilingual educational programs for the maintenance of the Hispanic cultural heritage in the American environment.

412 Sociolinguistics (3)

The study of social dialects in relation to the surrounding communities, with special attention to black dialects in America. Topics include social stratification, acculturation, language maintenance, standardization, language planning and language change.

490 Linguistics in Relation to Other Disciplines (1-4)

The mutually contributing relationships between linguistics and the social and natural sciences, literature, music, psychology, philosophy, mathematics, and language pedagogy. To be taken for one unit of credit for four semesters by majors in linguistics. Open to all upper division students.

499 Independent Study (1-3)

Supervised projects in linguistics to be taken with consent of department chairman as a means of meeting special curricular problems. Selection of topic to be studied varies with needs of the students enrolled. May be repeated for credit.

501 Research Methods and Bibliography (1)

Prerequisites: graduate standing and Linguistics 406, or equivalent. Introduction to principal books, periodicals, and collections in general linguistics, specific languages and related fields; techniques of preparing research papers and field reports in linguistics.

504 Graduate Seminar: General Semantics (3)

(Same as Speech Communication 504)

505 Seminar: Phonetics and Phonemics (3)

Prerequisite: Anthropology or Linguistics 406 or consent of instructor. Study of various kinds of phonological systems that occur in languages. Emphasis on practical problems in the phonetic and phonemic analysis of selected language data. (Same as Anthropology 505)

507 Seminar: Morphosyntax (3)

Prerequisite: Anthropology or Linguistics 406 or consent of instructor. The study of word formation and sentence construction in a variety of languages. Application of immediate constituent, tagmemic, and tranformational analysis to selected linguistic data. (Same as Anthropology 507)

508 Theories of Syntax (3)

Prerequisite: Linguistics 507 or consent of instructor. Intensive and practical study of contemporary theories of grammar, with special emphasis on transformational, generative, logical and electromechanical bases and techniques of utterance analysis.

515 Psycholinguistics (3)

Prerequisite: Linguistics 406 or equivalent. An examination of the behavioral, conceptual, motivational and social aspects of language, emphasizing recent developments in information theory, behavioral theory, and linguistic theory as applied to human communication. Linguistic ontogeny, non-verbal communication, and communicative failure will also be discussed.

529 Graduate Seminar: Linguistic Ontogeny (3)

Prerequisites: Linguistics 403 and 406, their equivalent, or consent of instructor. An intensive examination of the development of language and linguistic systems in the human species and in the individual from the viewpoint of contemporary linguistic analysis and theory. Special attention will also be given to non-verbal communication systems, paralanguage, and kinesics as language-relevant communication media. Work with informants and experimental subjects in the Laboratory for Phonetic Research will complement the theoretical material.

530 Historical Linguistics (3)

Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The history of language, also including principles and techniques for the historical study and classification of individual languages and language families, writing systems, lexicostatistical methods, and linguistic geography.

540 Graduate Seminar: Experimental Phonetics (3)

(Same as Speech Communication 540)

565 Graduate Seminar: Major Language Families (3)

Prerequisite: Linguistics 406, its equivalent, or consent of instructor. The linguistic history and present structure of the world's major language families. Each semester a different language family will be studied and analyzed in terms of its synchronic and diachronic phonology, morphology, syntax and semantics, with collateral attention given to the relationships between the language family and the cultures with which it is associated. May be repeated for credit.



Linguistics

575 Graduate Seminar: Current Issues in Linguistics (3)

Prerequisite: graduate standing in the Department of Linguistics or consent of instructor. An intensive exploration of the latest research and development in linguistic theory, technique and methodology. May be repeated for credit.

584 Linguistics and Reading (3)

(Same as Education 584)

592 Field Methods (3)

Prerequisites: Linguistics 505 and 507 or consent of instructor. Methods of analysis and description of language structures. Data elicited from informants will be analyzed and described. Controlled study of a live informant's language.

597 Project (2)

The preparation and completion of an approved project.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of department chairman. May be repeated for credit.

DEPARTMENT OF MATHEMATICS

FACULTY

Dennis B. Ames

Department Chairman

Russell Benson, Edwin Buchman, Joseph Bucuzzo, Michael Clapp, Russell Egbert, Robert Gauntt, Richard Gilbert, Vuryl Klassen, Vyron Klassen, Gerald Marley, John Mathews, Ronald Miller, Sam Pierce, Rollin Sandberg, Harris Shultz, Edsel Stiel, Yun-Cheng Zee

BACHELOR OF ARTS IN MATHEMATICS

The program of studies in mathematics offers courses stressing the understanding of mathematical concepts and the axiomatic approach. A sufficient variety of courses is given to satisfy the needs of:

- (1) The proficient aiming toward graduate study,
- (2) The student planning to use mathematics in a career in industry and government service,
- (3) Preprofessional students in other science areas,
- (4) The prospective elementary and secondary teacher.

The major program is designed to provide a student with both depth and breadth in mathematics. It also prepares a student for subsequent graduate work in mathematics.

The Applied Option is designed to prepare a student for industrial employment in applied mathematics.

The Teaching Option is designed to prepare a student for the teaching of mathematics (credentialed) in high school or lower.

The science-language requirements for all mathematics majors are:

The science-language requirements for all mathematics majors are:	dib.
Dissing 225A and 226A	Unit
Physics 225A and 226A and either	7
Thirteen units (or their equivalent) of a modern foreign language, German French or Russian. (Note: for the Teaching Option—German, French	
Russian and Spanish)	13
or	
Twelve units from one or several of the following categories	. 12
1. Additional courses from Physics 225B,C,D, and 226B,C and/or upper division physics	r
2. Chemistry 101A,B and/or upper division chemistry	
3. Philosophy 368, Symbolic Logic, or Mathematics 304 * but not both	
4 Quantitative Methods 264 Programming	

Any mathematics major may, if he desires, satisfy his science-language requirements with the above courses rather than the courses prescribed in a previous

Each of these courses must be passed with a grade of at least C, hence none may be taken on a credit/no credit basis.

To qualify for the Bachelor of Arts in Mathematics, students must have at least a C in all mathematics courses required for the major.

The basic courses in mathematics may also be used to meet the general education requirements.

^{*}The student in the Teaching Option may not use Math 304 for credit in both the science-language requirements and as a major elective in mathematics.

Mathematics

Mathematics majors should take the lower division mathematics courses (150A, B, 250, 291) during the first two years. Furthermore, majors requiring Advanced Calculus (350A, B) should complete these courses before the senior year.

	Major Program in Mathematics	December Chairman
Required courses:	Description of the control of	Units
Math 150A,B	Analytic Geometry and Calculus	8
Math 250 In	termediate Calculusnear Algebra	4
Math 291 Li	near Algebra	343 grant - mir - 3
Math 306 Vo	ector and Tensor Analysis ementary Differential Geometry } (cl	noice)
Math 307 El	ementary Differential Geometry	pas informants will it.
Math 302 M	odern Algebra	
Math 350A,B	bstract Algebra	6
Math 412 C	ostract Algebra	
Math 414 To	omplex Analysis choice of three)	9
A	eal Analysis J ny other 400-level course in mathema	tics 3
Processing and		
		39
	Option in Applied Mathematics	
Required courses	. Opinion in Applica manicipality	Units
COLUMN TO SEE SEE SEE SEE SEE SEE SEE SEE SEE SE		at margord rotall comis
Math 150A, B Math 250	Intermediate Calculus	
Math 291	Linear Algebra	3
Math 306	Vector and Tensor Analysis)
Math 307	Vector and Tensor Analysis Elementary and Differential Geome	(choice) 3
Math 310	Ordinary Differential Equations	3
Math 350A, B		6
Math 302	Modern Algebra	1
Math 335	Mathematical Probability	
Math 336	Mathematical Statistics	Maysucs IIIA and 1268
Math 340	Numerical Analysis	(choice of four, 12
Math 430	Partial Differential Equations	at least two of
Math 431	Methods of Applied Mathematics	which must be 400-
Math 440	Advanced Numerical Analysis	level)
Math 450	Real Analysis	70.
Math 412	Complex Analysis	3
		- Additional courses
		epievelo notavita 42
	Option in Mathematics for Teacher E	ducation
	for Elementary or Secondary Educ	ation
Required courses	in - all smannanth so line shoul	
Math 150A, B	Analytic Geometry and Calculus	8
Math 250 In	termediate Calculus	······ 7
Math 291 Li	near Algebra	3
	odern Algebra (choice)	3
	uniber Theory	
Math Ed 311	Fundamental Concepts of Mathematic	cs—Algebra 3
Math Ed 312	Fundamental Concepts of Mathemat	ics—Geometry 3
Math 315 E	rojective Geometry (choice)	on amendment lik ill 3
Math 320 Pr	ojective Geometry (Choice)	DELEG MICHELLING GREEN - MICH.
Math 335 M	athematical Probability choice	
Math 336 M	athematical Statistics	200 level of bishes 0
Elective cour	ses from Mathematics Department onl	y, 300-level or higher 9

Minor Program in Mathematics

A mathematics minor shall consist of 20 units of coursework selected from the courses offered by the Mathematics Department. They must include Mathematics 291 and at least six upper division units from the Mathematics Department. Each course must be completed with a grade C or better.

Minor Program in Mathematics for Teacher Education

A. For elementary education the minor shall consist of 20 units of coursework selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 150B and Mathematics Education 103A,B.

B. For secondary education the minor shall consist of 20 units of coursework selected from the course listings in mathematics and mathematics education. These courses must include Mathematics 291 and six units of upper division courses in mathematics or mathematics education.

MASTER OF ARTS IN MATHEMATICS

The M.A. in Mathematics is designed to provide advanced study for students interested in continuing studies for a Ph.D. in mathematics, high school and junior college teaching, and mathematical analysis in industry.

Prerequisites

Prerequisites to the program include:

- (1) possession of a baccalaureate degree from an accredited institution;
- (2) an undergraduate major in mathematics or a combination of courses and work experience which the student's graduate committee evaluates as satisfactory preparation.

Students with limited preparation or grade deficiencies may be considered for admission to the program, upon completion of committee-approved courses with at least a B average.

Program of Study (for all except high school mathematics teachers)

The degree program requires 30 units of graduate study approved by the student's graduate committee. Sixteen of these units must be 500-level mathematics courses. Each student will be required to take electives to insure competence in algebra, analysis, topology and geometry. Nine units will be required outside the student's specialization, which may be taken in the Mathematics Department.

Proficiency in reading mathematics literature in an adviser-approved foreign language will be required before advancement to candidacy and before the department will recommend the awarding of the degree, the candidate must pass examinations (written and/or oral) designed to test his competence in the coursework he has taken.

For more detailed information or advisement, students should communicate with the chairman of the Department of Mathematics.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

Program of Study for Option in Mathematics for Secondary Schools

This option, designed for high school mathematics teachers, requires 30 units of graduate study approved by the student's graduate committee. The following 15 units of coursework must be included: Math 581, 582, 583, 590 and one unit of 597. Each student will be required to take electives to insure competence in algebra, geometry and analysis.

There is no foreign language requirement for this option. Before the department will recommend the awarding of the degree, the candidate must pass examinations

designed to test his competence in the coursework he has taken.

Mathematics

Most of the courses required for this option will be offered during the summer only. Courses will be scheduled so that a student may complete the degree requirements by attending classes during three successive summers. It should be noted that the student must be admitted to the college for a regular semester and must be enrolled at the time of receiving the degree.

For more detailed information or advisement, students should communicate with

the chairman of the Department of Mathematics.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

MATHEMATICS COURSES*

110 Methods and Concepts of Mathematics (3)

Prerequisites: 2½ years of high school mathematics, including one year of algebra and one year of geometry. Selected topics in algebra, number theory, geometry, set theory, probability and analysis with special emphasis on the ideas and methods involved. Not open for credit to mathematics majors.

120 Elementary Probability (3)

Prerequisites: three years of high school mathematics or its equivalent. Topics include set algebra, finite probability models, sampling, binomial trials, conditional probability and expectation. It is particularly suited to students of economics, the biological and social sciences.

150A,B Analytic Geometry and Calculus (4,4)

Prerequisites: four years of high school mathematics inclusive of trigonometry. An introduction to analysis including vector algebra, analytic geometry, functions, limits, differentiation, the definite integral, techniques of integration, first order differential equations, applications.

250 Intermediate Calculus (4)

Prerequisites: Math 150A,B or equivalent. A continuation of Math 150. Topics include functions of several variables, partial differentiation, curvilinear integrals, multiple integration, infinite series, Taylor's theorem, linear differential equations.

281 Linear Alegbra with Differential Equations (3)

Prerequisite: Math 250. An introduction to linear algebra with particular application to the theory of ordinary differential equations. Topics include: vector functions, vector spaces, linear transformations, systems of linear algebraic and differential equations, matrices, determinants, eigenvectors and eigenvalues, applications to physical systems, series solutions of differential equations. Intended for students in the physical sciences and engineering. (Credit cannot be taken for Math 291 if Math 281 is taken.)

291 Linear Algebra (3)

Prerequisite: Math 150B. The study of matrices, determinants, vector spaces, linear transformations. (Credit cannot be taken for Math 281 if Math 291 is taken.)

302 Modern Algebra (3)

Prerequisite: Math 291. The integers, rational numbers, real and complex numbers, polynominal domains, introduction to groups, rings, integral domains and fields.

304 Mathematical Logic (3)

Prerequisite: Math 150B. An introductory course in the elements of mathematical logic.

^{*} Prerequisites may be waived in any mathematics course by the consent of instructor.

305 Elements of Set Theory (3)

Prerequisites: Math 250 and 291. Operations on sets; functions; cardinals and ordinals; ordering, well ordering; axiom of choice; transfinite numbers.

306 Vector and Tensor Analysis (3)

Prerequisites: Math 250 and either 281 or 291. Analysis of vector fields; Green's, Gauss' and Stokes theorems. Introduction to tensor analysis. Applications to geometry, mechanics and electromagnetism.

307 Elementary Differential Geometry (3)

Prerequisites: Math 250 and 291. The differential geometry of curves and surfaces in Euclidean 3-space. Differential forms in 3-space. Cartan's equations of structure. Gauss-Weingarten-Codazzi equations.

310 Ordinary Differential Equations (3)

Prerequisites: Math 250 and either 281 or 291. An introduction to existence theorems and the theory of ordinary differential equations.

315 Euclidean Geometry (3)

Prerequisite: Math 250. Selected topics in advanced Euclidean geometry such as convexity, transformation theory and n-dimensional Euclidean space.

320 Projective Geometry (3)

Prerequisite: Math 291. Homogeneous coordinates, projective group, cross-ratio, duality, point and line conics.

330 Number Theory (3)

Prerequisite: Math 250 or 291. Divisibility, congruences, prime number theory, Diophantine problems.

335 Mathematical Probability (3)

Prerequisite: Math 250. An introductory course in probability theory and its applications, based on use of the calculus.

336 Mathematical Statistics (3)

Prerequisite: Math 250. An introductory course in statistical theory and its applications, based on use of the calculus.

340 Numerical Analysis (3)

Prerequisites: Math 250, either 281 or 291, and a knowledge of computer coding. Solution of systems of nonlinear equations. Approximation and interpolation. Numerical differentiation, integration, and solution of ordinary differential equations. Difference equations. Error analysis. Computer coding of numerical methods.

350A,B Advanced Calculus (3,3)

Prerequisites: Math 250 and either 281 or 291. Designed to introduce the student to rigorous proofs in analysis. Topics include continuity, differentiation and integration of functions of several variables, improper integrals, sequences and infinite series.

407 Abstract Algebra (3)

Prerequisite: Math 302. Sets, mappings, groups, rings, modules, fields, homomorphisms, advanced topics in vector spaces and theory of linear transformations, matrices, algebras, ideals, field theory, Galois theory.

412 Complex Analysis (3)

Prerequisite: Math 350A. Complex differentiation and integration, Cauchy's theorem and integral formulas, maximum modulus theorem, harmonic functions, Laurent series, analytic continuation, entire and meromorphic functions, conformal transformations and special functions.

373

Mathematics

414 Topology (3)

Prerequisite: Math 350A. An introductory course in point set and algebraic topology.

430 Partial Differential Equations (3)

Prerequisite: Math 350B or consent of instructor. Cauchy-Kowalewsky and other existence theorems, theory of first order equations, classification of equations of higher order, detailed study of elliptic, hyperbolic and parabolic equations, applications of functional analysis to partial differential equations.

431 Methods of Applied Mathematics (3)

Prerequisite: Math 350A or consent of instructor. Calculus of variation, partial differential equations of physics, Fourier series and orthogonal functions, integral transforms.

440 Advanced Numerical Analysis (3)

Prerequisites: Math 340 and 350A. Numerical solution of systems of linear equations, matrix inversion, computation of eigenvalues and eigenvectors, and solution of partial differential equations. Error analysis. Computer coding of numerical methods.

450 Real Analysis (3)

Prerequisite: Math 350B. An introduction to Lebesgue measure and integration and selected topics from the following: metric spaces, compact and perfect sets, Cantor's ternary set, limes inferior and superior, discontinuities, functions of bounded variation, Riemann-Stieltjes integral, families of continuous functions, equi-continuity, Stone-Weierstrass theorem, convergence of Fouries series, inverse and implicit function theorems, functional dependence.

499 Independent Study (1)

Prerequisite: consent of instructor. Study of some special topic in mathematics, selected in consultation with the instructor and carried out under his supervisions.

506 Seminar in Number Theory (3)

Prerequisites: Math 302, 330, 350B or consent of instructor. Selected topics in analytic and algebraic number theory.

507 Topics in Abstract Algebra (3)

Prerequisites: Math 407. Modules, algebras, ideal theory, field theory, Galois theory, categories, functors, homology.

508 Seminar in Algebra (3)

Prerequisite: Math 407 or consent of instructor. Structure theory of rings, algebras, field and Galois theory. Homological algebra. Research topics in algebra. May be repeated for credit.

512 Complex Analysis (3)

Prerequisite: Math 412. Special topics in complex analysis including analytic functions of several variables, special functions, conformal mapping and Riemann surfaces.

514 Topology (3)

Prerequisite: Math 414. Advanced point set and algebraic topology.

515 Seminar in Advanced Topology (3)

Prerequisite: consent of instructor. Advanced areas in topology in preparation for research work. May be repeated for credit.

520 Lebesgue Measure and Integration (3)

Prerequisite: Math 350B. Lebesgue measure and integration on the line and in n-space. Topics include the dominated convergence theorem, absolute continuity, convergence in measure and in mean, differentiation and Fubini's theorem.

525 Differential Geometry (3)

Prerequisite: Math 414. Differentiable manifolds, connections, curvature, torsions, covariant differentiation, topics in Riemannian geometry.

526 Seminar in Geometry (3)

Prerequisite: graduate standing and consent of instructor. May be repeated for credit.

530 Topics in Applied Mathematics (3)

Prerequisite: consent of the instructor. Topics will be selected from mechanics of continua, integral equations, partial differential equations, probability, statistics, ordinary differential equations, Riemann surfaces and approximation theory. May be repeated for credit.

531 Seminar in Applied Mathematics (3)

Prerequisite: consent of instructor. Advanced topics in applied mathematics. May be repeated for credit.

550 Topics in Real Analysis (3)

Prerequisite: Math 450. General theory of measure and integration, set functions, theorems of Radon-Nikodym and Fubini.

551 Seminar in Analysis (3)

Prerequisite: consent of the instructor. A semester graduate course in analysis. Advanced topics in real and complex analysis. May be repeated for credit.

560 Functional Analysis (3)

Prerequisites: Math 291 and 450; corequisite: Math 414. Topics in modern functional analysis including Hilbert and Banach spaces, linear transformations and spectral theory.

580 Junior High School Mathematics from an Advanced Standpoint (3)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the junior high school mathematics curriculum correlated with a seminar on current junior high school mathematics programs.

581 High School Geometry from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school geometry curriculum, correlated with a seminar on current high school geometry programs.

582 High School Algebra from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school algebra curriculum, correlated with a seminar on current high school algebra programs.

583 Precalculus High School Mathematics from an Advanced Standpoint (4)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. The content and methods of mathematics related to the high school precalculus curriculum (primarily trigonometry and analytic geometry), correlated with a seminar on current high school precalculus programs.

584 Elementary Analysis from an Advanced Standpoint (3)

Prerequisites: graduate standing plus one year of full-time teaching in high school mathematics. The content and methods of mathematics related to the high school curriculum in analysis, correlated with a seminar on current high school programs in analysis.

590 Seminar in Secondary Mathematics (2)

Prerequisites: graduate standing plus one year of full-time teaching in junior or senior high school mathematics. An analysis of current issues, programs and proposals within secondary mathematics. May be repeated for credit.

597 Project (1-3)

May be repeated for credit.

Independent Graduate Research (1–3) Prerequisite: graduate standing. One unit of independent study required of each student for each regular graduate course. Also offered without being attached to any course. May be repeated for credit. Prizentalist Alain & Id. Central Theory of measure and integration, set functions theorems of Raden Nikodym and Ventral Contractions and Contraction of the Contracti

DEPARTMENT OF PHILOSOPHY

FACULTY

Paul C. Hayner

Department Chairman

William Alamshah, Ernest Becker*, John Cronquist, Leonard Hitchcock, Gloria Rock, J. Michael Russell, Frank Verges

BACHELOR OF ARTS IN PHILOSOPHY

The major in philosophy is designed to provide the undergraduate student with (1) information about the achievements of the world's outstanding philosophers in the analysis and resolution of philosophic issues, and (2) some measure of skill in analyzing and resolving such issues as they arise in his own areas of interest. Courses in philosophy are selected to provide both breadth and depth in exploring and analyzing philosophic concerns.

Requirements for the Major

- A. A minimum of 30 units in philosophy.
- B. Lower Division (Maximum of 6 units beyond general education requirements).
 - 1. Philosophy 290 (3)
 - 2. Philosophy 291 (3)

Note: Students who have taken their lower division work elsewhere will be given credit for equivalent coursework. Up to 6 units of such coursework may be allowed for credit at the discretion of the department.

- C. Upper Division (Minimum of 24 units)
 - 1. Philosophy 300 (3)
 - 2. Philosophy 301 (3)
 - 3. At least 9 units at the 400 level, to include:
 - a. At least one seminar, (3)
 - b. Philosophy 499, and (3)
 - c. A 400 level elective other than a seminar. (3)

A program in philosophy profits greatly through the study of literature, psychology, and the social sciences. Students of philosophy are advised to supplement their studies in philosophy with coursework offered in these fields. Philosophy majors are urged to acquire proficiency in a foreign language.

MINOR IN PHILOSOPHY

Requirements for the Minor are:

- A. A minimum of 21 units in Philosophy.
- B. Lower Division (Maximum of 9 units beyond general education requirements).
 - 1. Philosophy 290 (3)
 - 2. Philosophy 291 (3)
- C. Upper Division (Minimum of 12 units)
 - 1. Philosophy 300 (3)
 - 2. Philosophy 301 (3)

^{*} College administrative officer.

PHILOSOPHY COURSES

100 Introduction to Philosophy (3)

An introduction to the nature, methods and some of the main problems of philosophy.

110 Comparative Study of the World's Great Religions (3)

A study of man's religious impulse as viewed from the philosophical standpoint. An attempt will be made to analyze and to compare religious experience as expressed in Christianity, Islam, Buddhism, Hinduism, etc.

210 Logic (3)

Analysis of the various forms given to propositions and the basic requirements necessary for valid inference.

250 Philosophy of Ideas (3)

Analysis of basic ideas which have shaped modern thought.

290 History of Philosophy: Greek Philosophy (3)

The origins of Philosophy in Greece, and its development to the time of Socrates, Plato, and Aristotle.

291 History of Philosophy: Medieval Philosophy (3)

Scholastic philosophy and its precursors in ancient thought.

300 History of Philosophy: Rationalism and Empiricism (3)

The rationalism of Descartes, Spinoza, and Leibniz, and the empiricism of Locke, Berkeley, and Hume.

301 History of Philosophy: Kant and the 19th Century (3)

The empiricistic and rationalistic influences on Kant, followed by a study of the major trends in 19th-century philosophy.

305 Contemporary Philosophy (3)

A survey and analysis of the main trends of 20th-century philosophy. Emphasis will be placed on such trends as pragmatism, linguistic analysis, and existentialism.

310 Ethics (3)

An analysis of the problems of human conduct: motivation, valuing, norms, social demands, and personal commitments.

311 Aesthetics (3)

An investigation into the conditions and the aims of art and aesthetic experience.

323 Contemporary Existentialism (3)

An analysis of the meaning of existentialism in modern philosophy.

345 Political Philosophy (3)

Selected problems in political philosophy.

347 Selected Problems in Philosophy (3)

An investigation into the significant contributions made to human culture through philosophic analysis.

360 Philosophy of History (3)

A study of the metaphysical and the logical problems of history.

365 Social Philosophy (3)

Philosophical (logical) analysis of theories of social organization and rigorous investigation of the various types of social, economic and cultural institutions which make up western society.

368 Symbolic Logic (3)

The recognition and construction of correct deductions in the sentential logic and the first-order predicate calculus with identity.

369 Symbolic Logic (3)

Prerequisite: Philosophy 368 or equivalent. Continuation of the study of the recognition and construction of correct deductions in the full first-order predicate calculus with identity and the calculus of descriptions. Detailed examination of axiomatized deductive systems of propositional calculus.

370 Philosophy of Religion (3)

An examination of the role of philosophy in shaping theological doctrine, in critically evaluating religious experience, in proving the existence of God, and in considering the issues of atheism and the existence of evil.

375 Introduction to Philosophy of Language (3)

An introduction to the major issues in semantical theory: truth, meaning, analytic-synthetic, semiotics. (Same as Linguistics 375)

380 Analytic Philosophy (3)

Prerequisite: six units in philosophy or consent of instructor. A detailed investigation of the works of some of the many figures of the 20th-century movement in analytic philosophy. The works of Russell, Moore, Wittgenstein, Strawson, Ryle will be read.

385 Philosophy of the Behavioral Sciences (3)

Problem posed by methodological developments in psychology, sociology, anthropology, economics, political science and history. Topics such as objectivity and value judgments in social science, Virstehen, emergence explanation, models and theories will be studied. The concepts of reductionism and functionalism examined. Some acquaintance with the behavioral sciences is presupposed.

420 Metaphysics (3)

Prerequisite: six units in philosophy or consent of instructor. An examination of the philosophical problems of freedom and determinism, mind and body, time and becoming, causation, deity, substratum, personal identity.

425 Introduction to Phenomenology (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation into the historical background and basic viewpoints which have provided a framework for philosophical research and study in the writings of Husserl, Heidegger, Sartre, and Merleau-Ponty.

430 Epistomology (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation of the concepts of knowledge, belief and certainty, and a study of representative theories concerning man's knowledge of the external world, the past, and other minds.

435 Philosophy of Science (3)

Prerequisite: six units in philosophy or consent of instructor. An investigation into the methodologies of the deductive and inductive sciences.

440 Philosophy of Mind (3)

Prerequisite: six units in philosophy or consent of instructor. Basic problems relating to the analysis of the concept of mind and such related issues as behavior, consciousness, and voluntary action.

444 Seminar in Ethical Theory (3)

Prerequisite: six units in philosophy or upper division standing; Philosophy 310 recommended. Examination of some prominent theories regarding the analysis of such concepts as right action, goodness, duty, and the justification of ethical beliefs.

445 Seminar in Value Theory (3)

Prerequisite: Philosophy 310 or consent of instructor. An investigation into the conditions, modes, levels, and criteria relevant to any systematic view of valuing.

450 Seminar in Philosophy of Language (3)

Prerequisite: six units in philosophy or consent of instructor. A detailed examination of the problems in the theory of meaning and formal semantics.

457 Seminar in Ancient Philosophy (3)

Prerequisite: Philosophy 290 or consent of instructor. A detailed examination of the works of some major Ancient Philosopher, such as Plato or Aristotle, or of some School of Ancient Philosophy, such as Stoicism. This course number may be repeated with different content for additional credit.

467 Seminar in Continental Rationalism (3)

Prerequisite: Philosophy 300 or consent of instructor. A detailed examination of the works of some major Rationalist, such as Descartes, Spinoza or Leibniz, or some school or phase of Continental Rationalism. This course number may be repeated with different content for additional credit.

468 Seminar in Advanced Symbolic Logic (3)

Prerequisite: Philosophy 369 or equivalent. Detailed examination of axiomatized systems of deduction covering such areas as the propositional and predicate calculi and alternative systems of logic. Topics in philosophical logic and free logic.

477 Seminar in British Empiricism (3)

Prerequisite: Philosophy 300 or consent of instructor. A detailed examination of the works of some major British Empiricist, such as Locke, Berkeley, or Hume, or of some school or phase of British Empiricism. This course number may be repeated with different content for additional credit.

487 Seminar in Modern Philosophy (3)

Prerequisite: Philosophy 301 or consent of instructor. A detailed examination of the works of some major Modern Philosopher, such as Kant, Hegel, Nietzsche or J. S. Mill, or of some school or phase of Modern Philosophy to around the end of the 19th century. This course may be repeated with different content for additional credit.

497 Seminar in Contemporary Philosophy (3)

Prerequisite: Philosophy 305 or consent of instructor. Emphasis will be placed on the Analytic Movement in Philosophy as it developed during the 20th century. The works in such philosophers as C. I. Lewis, Quine, Goodman, Russell and Wittgenstein will be read. The course may be repeated with different content for additional credit.

499 Independent Study (1-3)

Prerequisites: minimum of 12 units in philosophy and approval of the department. Such study is designed to develop greater competency in research. May be repeated for credit.

DEPARTMENT OF PHYSICS

FACULTY

Fred M. Johnson

Department Chairman

Raymond Adams, Kurt Bengston, Harvey Blend, Edward Cooperman, Ronald Crowley, Roger Dittman, Stuart Dubin, David Johnston, Mark Shapiro, Thomas Stark

BACHELOR OF ARTS IN PHYSICS

The program leading to the Bachelor of Arts in Physics provides fundamental instruction for the student who is preparing (1) to teach in elementary or secondary schools, (2) to undertake graduate work in physics or related fields, (3) to pursue additional collegiate studies leading to professional degrees in dentistry, law, medicine, nursing, and related areas, and (4) to seek employment in technical and applied fields.

The faculty is concerned that the student of physics shall have adequate education in other liberal arts subjects, including foreign language. Through curriculum requirements and elective subjects, the physics student will be expected to acquire a broad education in traditional liberal arts subjects, the several sciences, and mathematics. In particular, the student is urged to make his selection of elective courses

outside the field of physics.

To qualify for the Bachelor of Arts in Physics, students must have a C average in all courses required for the major, including those in mathematics and related sciences. No credit toward the major will be allowed for major courses in which

a grade of D is received.

Proficiency in one foreign language (Russian, German or French) is recommended. A reading comprehension of a second foreign language is also recommended for those students planning graduate study leading to the Ph.D. It is recommended that two semesters of a fundamental course in a foreign language (10 units) and one semester of a scientific foreign language course be taken.

Minimum Departmental Requirements for Degree

Lower Division	Unit.
Freshman Seminar	1
General chemistry (satisfies general education physical science requirement) Mathematics: analytic geometry and calculus (satisfies general education	10
mathematics requirement)	
Fundamental physics	
Total (Lower Division)	38
Upper Division Physics	
411 Theory of Wave Motion	3
416 Thermal and Statistical Physics	3
431 Electricity and Magnetism	3
441 Analytical Mechanics	3
455 Introduction to Quantum Physics	3
453 Nuclear Physics or	
451 Modern Physics	3
481A Experimental Physics (electrical measurements and electronics)	3
481B Experimental Physics (acoustics, physical optics, and atomic spectra)	3
481C Experimental Physics (atomic and nuclear physics)	3
481D Experimental Physics or 410 Math Physics	3
	-
Total (upper division)	30

Physics

Required Math	ematics								Units
Mathematics	courses	in	addition	to	analytic	geometry	and	calculus	. 9

MINOR IN PHYSICS

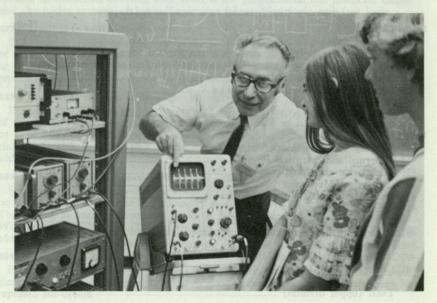
A minimum of 21 units of physics are required for a minor. These shall include 12 units of lower division physics (or equivalent as determined by the department of physics), and a minimum of 9 units of upper division physics, including a minimum of 3 units of experimental physics.

Suggested Eight-Semester Program for Major

The following program suggests a sequence of courses leading to the Bachelor of Arts in Physics.

Semester 1. Freshman	Units
Physics 101 Freshman seminar	1
Physics 225A,	
226A Fundamental Physics	4
Math 150A Analytic Geometry and Calculus	4
* Any two required general education courses	6
	1 12 120
	15
Semester 2. Freshman	
Physics 225B,	
226B Fundamental Physics	4
Math 150B Analytic Geometry and Calculus	4
* Any two required general education courses	6
the new land of the same through the park of the same through	14

^{*} Suggested general education courses: English Composition and/or World Literature, Hist 170A, United States Since 1877, Poly Sci 100, American Government (these meet state requirements); Bio Sci 102, Crisis Biology, English 301, Advanced Composition, Phil 210, Logic, and a foreign language number 303, Scientific Readings, are courses useful to the physics major. In addition to courses that have some relation to physics, the student is urged to select courses in unrelated areas.



Semester 3. Sophomore	
Physics 225C,	Units
226C Fundamental Physics	4
Math 250 Intermediate Calculus	
Chem 101A General Chemistry	-
*Any required general education course	
	16
Semester 4. Sophomore	
Physics 225D Fundamental Physics	3
Math 281 Linear Algebra and Differential Equations	3
Chem 101B General Chemistry	5
* Any two required general education courses	6
(Ciffored by the Departments-of-this distribution of the ARE	17
Semester 5. Junior	
Physics 411 Theory of Wave Motion	3
Physics 431 Flectricity and Magnetism	
Physics 481A Experimental Physics	3
Any upper division mathematics course	3
* Any required general education course	3
	15
Semester 6. Junior	LV ENGINEET CHE
Physics 441 Analytical Mechanics	3
Physics 481B Experimental Physics	3
Any upper division mathematics course	3
* Any required general education course	3
‡ Elective	6
	18
Semester 7. Senior	modern Their
Physics 455 Introduction to Quantum Physics	
Physics 455 Introduction to Quantum Physics	3
Physics 481C Experimental Physics	3
* Any two required general education courses	6
‡ Elective	3
	18
auverce (character	18
Semester 8. Senior	
Physics 416 Thermal and Statistical Physics	3
† Physics 453 Nuclear Physics, or elective	3
‡ Electives	
	15

Students should consult with their academic advisers.

GRADUATE WORK IN PHYSICS

The Physics Department offers a number and variety of graduate courses in physics.

† Either Phy 451 Modern Physics or Phy 453 Nuclear Physics is required.

‡ Electives may be taken from the Physics Department or from other departments. Physics electives include: Phy 401, Introduction to Mathematical Physics; Phy 481D, Experimental Physics; Phy 490, Senior Seminar; Phy 499, Independent Study.

* Suggested general education courses: English Composition and/or World Literature, Hist 170A, United States to 1877 or 170B United States Since 1877, Poly Sci 100, American Government (these meet state requirements); Bio Sci 102, Crisis Biology, English 301, Advanced Composition, Phil 210, Logic, and a foreign language number 303, Scientific Readings, are courses useful to the physics major. In addition to courses that have some relation to physics, the student is urged to select courses in unrelated areas.

ASTRONOMY COURSES

(Offered by the Department of Science and Mathematics Education and the Department of Physics)

See department listings for course descriptions of the following:

Physics 300 Introduction to Astronomy (3) (Same as Earth Science 300)

Earth Science 350 General Astronomy (4) (Formerly 200) (Same as Physics 350)

PHYSICAL SCIENCE COURSES

(Offered by the Departments of Chemistry and Physics)

100 Man and His Physical Environment (4)

A course specifically designed to meet the needs of non-science majors. It traces some of man's scientific and technological activities which have resulted in major modification of his environment. Key elements will be examined with a view towards predicting trends and suggesting alternatives which may improve the environment. Treated will be topics such as: transportation; energy conversion; food production; population; resources, renewable and nonrenewable; waste disposal; pollution. Particular emphasis will be given to those problems which threaten man's survival. Credit will not be given to students who have had a college course in chemistry or physics.

201 Modern Physical Science (4)

Prerequisite: one year of high school algebra or equivalent, or consent of instructor. Taught jointly by the Departments of Chemistry and Physics, this course presents the essential unifying features of the basic physical sciences, chemistry, chemistry and physics; the modern concepts of the physical and chemical theory of atomic and molecular structure form the unifying course material. Selected physical and chemical theory (from the fields of mechanics, electricity and magnetism, light, kinetic theory, thermodynamics, quantum theory, and inorganic and organic chemistry) are included to provide the necessary background material. Credit will not be given to students who have had a college course in chemistry or physics.

PHYSICS COURSES *

100 Man and His Physical Environment (4)

(See course description under Physical Science 100)

101 Freshman Seminar (1)

This course is offered on a credit-no-credit basis only. The course is open to all interested persons in the academic community including both those in science and those not in science. The course is designed to acquaint the student with the type of work that is presently being done by physicists throughout the world. The seminars consist of approximately 15 seminar talks presented by well-known persons from the field of physics or a closely related field and approximately two field trips to academic or industrial research establishments.

102 Introduction to Analysis (4)

(Preparation for calculus-same as Engineering 100)

^{*} For all courses, prerequisites not requiring consent of the department chairman may be waived by the instructor of the course if he is satisfied that the student is qualified to undertake the course. A grade of C or better is required for all prerequisite courses.

201 Modern Physical Science (4)

(See course description under Physical Science 201)

211A,B Elementary Physics (3,3)

Prerequisites: high school algebra, 1½ year; trigonometry, ½ year. Elementary physics covers mechanics and thermodynamics in the first semester, and electricity and magnetism, wave motion and quantum mechanics in the second semester. Illustrative material from biology and medicine will be included. Concurrent enrollment in 212A,B laboratory required.

212A,B Elementary Physics (1,1)

Laboratory for 211A,B. Concurrent enrollment in 211A,B lecture required. (3 hours laboratory)

225A Fundamental Physics: Mechanics (3)

Corequisite: Math 150A. Classical physics, including Newtonian mechanics, linear and circular motion, energy, momentum, systems of particles, rigid body motion and the special theory of relativity. Concurrent enrollment in Physics 226A Laboratory required.

225B Fundamental Physics: Electricity and Magnetism (3)

Prerequisite: Physics 225A or equivalent; corequisite: Math 150B. Electrostatics, electric potential, Poisson's and Laplace's equations, capacitance, dielectrics and boundary value problems, electrical circuits, resistance, emf, magnetism and magnetic materials, and introduction to Maxwell's equations. Concurrent enrollment in Physics 226B Laboratory required.

225C Fundamental Physics: Modern Physics (3)

Prerequisite: Physics 225A or equivalent. Geometrical and physical optics, wave phenomena; the historical development of quantum physics, including the photoelectric effect, line spectra and the Bohr atom; the wave nature of matter; Schroedinger' equation and solutions; the Uncertainty Principle. Concurrent enrollment in Physics 226C Laboratory required.

225D Fundamental Physics: Thermal and Statistical Physics (3)

Prerequisite: Physics 225A or equivalent. Temperature, heat, changes of phase, ideal gas laws and the laws of thermodynamics; microscopic models, adiabatic processes and the Maxwell-Boltzman distribution function; transport phenomena, nonstationary state processes.

226A,B,C Fundamental Physics: Laboratory (1,1,1)

Laboratory for Physics 225A,B,C. Concurrent enrollment in the corresponding 225A,B,C lecture required. (3 hours laboratory)

Note: For Physics 225A,B,C,D and 226A,B,C prerequisites may be waived by consent of the department chairman and/or the instructor.

300 Introduction to Astronomy (3)

Prerequisite: high school algebra. Includes celestial motion, a study of the solar system, gallactic structure, theories of the origin of the universe and the solar system. (3 hours lecture with occasional field trips replacing a lecture) (Same as Earth Science 300)

311 Introduction to Molecular Biophysics (3)

Prerequisites: Biological Science 101, Math 150A,B (or consent of the instructor), Physics 211A,B. An introduction to the properties of biological systems from a molecular viewpoint. Emphasis is placed on determinations of macromolecular size and shape and the relation of such information to the function of biological systems.

350 General Astronomy (4)

(Same as Earth Science 350)

Physics

405 Acoustics (4)

Course is designed expressly for non-science majors and a major portion of the material covered is oriented toward applications in music, psychology and linguistics. (2 hours lecture, 1 hour conference and 3 hours laboratory)

410 Introduction to Mathematical Physics (3)

Prerequisite: Physics 225 series sequence. Fundamental physical concepts are presented in a unifying framework. Course is intended to prepare the physics student for upper division physics by placing emphasis on the mathematical physics used in the five major theories of physics-classical mechanics, relativity, electricity and magnetism, quantum physics and statistical mechanics.

411 Theory of Wave Motion (3)

Prerequisites: Physics 225 series sequence, Math 150B. The properties of wave motion—production, propagation, refraction, diffraction, interference, and transmission of waves—as applied to mechanics, electromagnetism and quantum mechanics.

416 Thermal and Statistical Physics (3)

Prerequisite: Physics 225 series sequence. An intermediate presentation of the disciplines of thermodynamics, statistical mechanics and kinetic theory (and their applications) with emphasis placed on their unifying microscopic foundation.

431 Electricity and Magnetism (3)

Prerequisites: Physics 225 series sequence, Math 250. Theories of electrostatics, electrodynamics, and electromagnetic waves.

441 Analytical Mechanics (3)

Prerequisites: Physics 225 series sequence, Math 250. Principles of Newtonian mechanics applied to the statistics and dynamics of particles and rigid bodies. Introduction to Lagrangian and Hamiltonian equations.

451 Modern Physics (3)

Prerequisites: Physics 225 series sequence, Math 250. Discussion of experiments and introduction to theory for selected topics in atomic, nuclear, and solid state physics.

452 Introductory Radiology (3)

Prerequisite: one year college physics. X-rays, radioactivity, interaction of radiation with matter, detection of radiation, applications to health physics. Especially suitable for biology, chemistry, and premedical students who expect to work in radiation biology, radiation chemistry, or medical radiology.

453 Nuclear Physics (3)

Prerequisites: Physics 225 series sequence, Math 250. Properties of nuclei, radioactivity, elementary particles, nuclear reactions. Introductory discussion of theories of nuclear structure and nuclear processes.

454 Introduction to the Solid State of Matter (3)

Prerequisite: one course in atomic or nuclear physics, differential equations. An introduction to the physical properties of matter in the solid state, as explained by atomic theory. Crystal structure, thermal, electric, and magnetic properties of metals, semiconductors, band theory, and solid state devices.

455 Introduction to Quantum Physics (3)

Prerequisites: Physics 431, Physics 441, differential equations. An introduction to the concepts and theory of quantum physics. Early quantum theories, the Schrodinger equation, eigenvalue equations, operators, commutation properties, applications to simple quantum systems, matrix formulation, perturbation theory.

471 Electronic Circuit Theory (3)

Prerequisites: Physics 225 series sequence, Math 250. Operating characteristics of vacuum tubes, transistors, and semiconductor diodes. Linear circuit theory for alternating currents and for transient currents. Introduction to switching and pulse circuits.

476 Atomic Structure (3)

Prerequisite: Physics 455. The theory of atomic structure, interaction of radiation with matter. Angular momentum and coupling schemes.

481A Experimental Physics (3)

Prerequisite: Physics 225 series sequence; corequisite: Physics 431. Selected experiments in electrical measurements and electronics, with emphasis on precision of measurement and standardization of instruments. (1 hour lecture, 6 hours laboratory)

481B Experimental Physics (3)

Prerequisite: Physics 481A; corequisite: Physics 441. Selected experiments in mechanics, acoustics, physical optics, and microwaves. (1 hour lecture, 6 hours laboratory)

481C Experimental Physics (3)

Prerequisite or corequisite: one course in nuclear or modern physics. Selected experiments in atomic and nuclear physics. (1 hour lecture, 6 hours laboratory)

481D Experimental Physics (3)

Prerequisites: Physics 481A,B,C or consent of department chairman. Selected experiments in classical and modern physics. (1 hour lecture, 6 hours laboratory)

490 Senior Seminar (1-3)

Prerequisite: consent of instructor. Topics in recent developments in physics not ordinarily covered in organized courses. May be repeated for credit. Open to upper division and graduate students in physics and related areas.

499 Independent Study (1-3)

Prerequisites: approval of study plan by department chairman and by instructor. Study of some selected topic in physics, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit to a maximum of 6 units.

521A,B Methods of Theoretical Physics (3,3)

Prerequisite: Math 250. A study of selected applications of mathematics to physical theory and to engineering. Applications are selected from ordinary and partial differential equations, integral equations, integral transforms, series expansions of functions, calculus of variations, matrix theory, tensor analysis, group theory, complex variable theory, and numerical analysis.

531A,B Classical Electrodynamics (3,3)

Prerequisite: mathematics through partial differential equations. A—Boundary value problems in electrostatics and magnetostatics; multipole expansions; dielectrics and macroscopic media; Maxwell's equations and conservation laws; wave guides and resonators. B—Simple radiating systems; electromagnetic potentials; multipole radiations; classical relativistic electrodynamics; radiation from moving charges.

533 Analytical Mechanics (3)

Prerequisite: mathematics through partial differential equations. A thorough theoretical treatment of classical mechanics including the important motions of a point, general principles of work and energy, the principle of least action, Lagrange and Hamiltonian equations, the dynamics of rigid bodies, and related topics.

387

Physics

540A,B Quantum Physics (3)

Prerequisite: mathematics through partial differential equations. The quantum mechanical treatment of piecewise continuous potentials, the linear harmonic oscillator, central forces and angular momentum and the hydrogen atom; representation theory, the WKB approximation, scattering, the Born approximation, quantum dynamics, spin, perturbation theory, symmetry principles, identical particles.

545 Nuclear Theory (3)

Prerequisite: Physics 540A. Internucleon forces; nuclear models; electromagnetic properties of nuclei, nuclear radiation theory.

562 Statistical Physics (3)

Prerequisite: mathematics through partial differential equations. Fundamental concepts of probability and statistics; random walk; equilibrium; transport theory; ensembles; constraints; irreversibility; canonical distributions; classical and quantum statistics. Applications to fields such as temperature, conductivity, radioactivity, thermionic emission, solutions, reactions, fluctuations, random noise and plasmas.

565 Solid State Physics (3)

Prerequisites: Physics 562 and 540A. Crystalographic groups; lattice vibrations, magnetic phenomena, energy band theory, with applications to the electrical and optical properties of solids and superconducting media.

581 Experimental Physics (3)

Prerequisite: sufficient undergraduate experimental background. Presents basic, advanced techniques. Proper usage of computers and statistical methods in data analysis. Selected experiments in various fields of physics will be performed to teach proper data handling techniques.

599 Independent Graduate Research (1-3)

Prerequisite: written approval of study plan by department committee and by instructor. Open only to graduate students and only by permission of a faculty member. May be repeated for credit.



DEPARTMENT OF POLITICAL SCIENCE

FACULTY Charles Bell

Department Chairman

Sidney Baldwin, Michael Brown, Dwight Carpenter, Robert Dworak, Anne Feraru, Joel Fisher, Julian Foster, Barry Gerber, Harvey Grody, Robert Harlow, Karl Kahrs, John Mason, William Petak, Ivan Richardson, John Shippee, Barbara Stone, Sandra Sutphen, Bruce Wright, John Yinger

BACHELOR OF ARTS IN POLITICAL SCIENCE

The undergraduate major in political science prepares students for teaching, government employment on the local, state and national level, foreign service, graduate work in political science, law school, or leadership in civic and political activities. Political science is also of value to prospective special librarians and journalists.

The courses in public administration are designed to serve students in the following ways: (1) provide an opportunity to explore the administrative dimensions of government and politics; (2) prepare for public service careers in local, state, and national governments and in other public and quasi-public organizations; and (3) prepare for graduate study in public administration.

The prelaw student may work out an individual program in consultation with his adviser to meet the specific requirements for admission to the law school of his choice. Courses in related fields may include work in anthropology, economics, history, psychology, and sociology; also in accounting and report writing.

Unit and Course Requirements

The major consists of 30 units in political science of which at least 24 units must be in the upper division, plus 12 units in related departments taken with the approval of the adviser. These units are in addition to those meeting the general education requirements. Prospective majors are encouraged to take courses in anthropology, economics, geography, history, philosophy, psychology, sociology, and statistics.

All majors are required to take Political Science 100, American Government. This course does not apply toward the 30 units required of the major, but it may apply toward the student's general education requirements. Students intending to enroll in upper-division public administration courses are required to take not only Political Science 100, but Political Science 320, Public Administration and Policy, as well. Political Science 320 does count toward the major.

The Department of Political Science offers two internship programs: a government internship and a political internship. Prerequisites for these programs are a declared concentration in the particular area and the consent of the instructor. Further information is available from the department.

TEACHING MINOR IN POLITICAL SCIENCE

The teaching minor is composed of 21 units of political science, in addition to those meeting the general education requirements.

MASTER OF ARTS IN POLITICAL SCIENCE

This degree is planned for students interested in advanced graduate work toward the doctoral degree in political science, for the professional improvement of high school and junior college teachers, government employees, personnel in the military services, and for individuals interested in civic and political leadership.

Political Science

Prerequisites

A student desiring to be classified as a candidate for the degree:

- Must have taken the verbal and quantitative test of the Graduate Record Examination. The GRE Advanced Test in Political Science may also be rerequired.
- 2. Must have completed an undergraduate degree with a grade-point average of 3.0 or more in courses in his major field. If his major field was not political science or another social science, he must have a GPA of 3.0 both in his major and in any upper division social science courses he has taken.

A student whose GPA is less than 3.0 may appeal to the departmental Graduate Committee for waiver of this requirement, if his combined score on the GRE aptitude test is 1,000 or more.

 Must have demonstrated knowledge of appropriate research methods. A reading knowledge of a foreign language, of statistics, and of computer programming may be required as preparation if pertinent to the student's professional needs.

Program of Study

A student must design a study plan of 30 units of course work, subject to the approval of his M.A. committee (as part of the requirements for admission to classified status). At least 18 of these units must be in political science, of which 15 units, must be 500-level courses. Three to six units may be a thesis or project. A comprehensive final written examination and an oral examination are required.

No more than 9 units of postgraduate work taken prior to classified status may

be applied to a student's master's degree program.

For advisement and further information, consult the Department of Political Science.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

MASTER OF PUBLIC ADMINISTRATION

As a major gateway to a professional career in government and public affairs, the M.P.A. degree is designed to serve the following purposes:

- To prepare students who wish to enter a "generalist career" in public administration, leading to such positions as city manager, county administrator, and general administrative officer in city, county, state, and national governments;
- (2) To increase the professional competence of those who are already embarked on careers in general public administration, or in specialized areas of public administration, such as budgeting and finance, personnel, and systems analysis;
- (3) To assist functional specialists, such as those in urban planning, public works, public welfare, law enforcement, education, community action, and other fields, who believe that they need a broader education in public administration; and
- (4) To provide academic study for more experienced or mature persons who wish to prepare themselves for second careers in public administration.

Prerequisites

A student desiring to be classified for the M.P.A. degree must have satisfied the following requirements:

(1) Completion of the bachelor's degree from an accredited institution with the following: (a) undergraduate work that includes a minimum of 12 semester units in the social sciences, six semester units of which must have been at the upper-division level; (b) a grade-point average of at least 3.0 in upperdivision courses in the major field, and (c) successful passage of an upperdivision course in social science statistics; and

(2) Satisfactory completion of the verbal and quantitative tests of the Graduate Record Examination.

Students with grade-point deficiencies, but who have had extensive experience in an administrative capacity, may be classified in the program after they have demonstrated their ability for advanced academic work by successfully completing nine semester units of approved public administration coursework with a grade-point average of at least 3.0.

Program of Study

The program of study for the Master of Public Administration must include a minimum of 30 semester units of adviser-approved coursework which meets the following requirements:

(1) Nine units of required coursework in public administration, as follows:

			Administrative Research and Analysis	
Political S	cience 5	21	Seminar in Public Administration Theory	3
Political S	cience 5	26	Seminar in Administrative Behavior	3
			must include either a project or thesis, and the	

- student must enroll in either of the following:
 Political Science 597 Project 3
 Poitical Science 598 Thesis 3
- (3) At least six units of coursework must be in related fields outside of public administration, and at the 400 level or 500 level.
- (4) At least 15 units of coursework must be at the 500 level.
- (5) No more than six units of coursework may be accepted for transfer credit.
- (6) A final oral defense of the project or thesis is required of every candidate for the M.P.A. degree.
- (7) Normally, no more than nine units of postgraduate coursework taken prior to classified status may be applied to a master's degree program.

For further information, consult the Department of Political Science. See also "The Program of Master's Degrees," page 77, and the *Graduate Bulletin*.

POLITICAL SCIENCE COURSES *

Political Science 100 or its equivalent is the prerequisite for all upper division political science courses; 300-level courses beginning with 310 may require concurrent enrollment in a research proseminar. See the departmental bulletin for details not provided in the course descriptions below.

100 American Government (3)

Explores people, their politics, and power focusing on contemporary issues, changing political styles and processes, as well as institutions and underlying values contributing to the stability of the American political system. Satisfies the state requirements in U.S. Constitution and California state and local government.

300 Contemporary Issues in California Government and Politics (3)

Analysis of contemporary issues in California government and politics, including regional, county, and community subdivisions. Emphasis is on decision-making and the costs of democracy; the crisis in the cities, the flight to the suburbs, and race relations. Comparisons will be made with other states and their subdivisions. This course satisfies the state requirement in California state and local government.

^{*} Prerequisites may be waived only with the consent of the instructor.

Political Science

310 American Political Behavior (3)

Stresses American culture, social patterns, behavior as they relate to political interaction. To be taken in conjunction with Political Science 311 when offered by same instructor.

311 Research Proseminar in American Political Behavior (3)

Research concepts and techniques applied to an individual project in American political behavior. Offered only as companion course to Political Science 310.

315 American Political Process (3)

Stresses theoretical and analytic approaches to the study of structures, processes, and institutions in the American political system. To be taken in conjunction with Political Science 316 when offered by same instructor.

316 Research Proseminar in American Political Process (3)

Research concepts and techniques applied to an individual project in American political process. Offered only as companion course to Political Science 315.

320 Public Administration and Policy (3)

Public administration and the roles played by administrators in the formulation and execution of public policy. To be taken in conjunction with Political Science 321 when offered by same instructor.

321 Research Proseminar in Public Administration and Policy (3)

Research concepts and techniques applied to an individual project in public administration. Offered only as companion course to Political Science 320.

330 Comparative Political Analysis (3)

Compares patterns of political behavior and interaction in various political systems. Also analyzes the basis for making such comparisons. To be taken in conjunction with Political Science 331 when offered by same instructor.

331 Research Proseminar in Comparative Political Analysis (3)

Research concepts and techniques applied to an individual project in comparative political analysis. Offered only as companion course to Political Science 330.

335 Comparative Political Change (3)

A comparative study of sources and patterns of political change. To be taken in conjunction with Political Science 336 when offered by same instructor.

336 Research Proseminar in Comparative Political Change (3)

Research concepts and techniques applied to an individual project in comparative political change. Offered only as companion course to Political Science 335.

340 Political Philosophy (3)

Problems of evidence and validation in political studies. The distinction between empirical statements, value judgments and tautologies. The relationship of fact and value. Systematic approaches to the political philosophies of selected thinkers. To be taken in conjunction with Political Science 341 when offered by same instructor.

341 Research Proseminar in Political Philosophy (3)

Research concepts and techniques applied to an individual project in Political Philosophy. Offered only as companion course to Political Science 340.

345 Political Culture and Political Value (3)

Political values as they relate to aspects of political culture such as perceptions, attitudes and participation. To be taken in conjunction with Political Science 346 when offered by same instructor.

346 Research Proseminar in Political Culture and Political Values (3)

Research concepts and techniques applied to an individual project in political culture and political value. Offered only as companion course to Political Science 345.

350 International Politics (3)

A study of the diplomatic, political, economic, and cultural relations of states; basic factors of power, sovereignty, nationalism, imperialism, colonialism, the rise to influence of the developing nations, the settlement of disputes. To be taken in conjunction with Political Science 351 when offered by same instructor.

351 Research Proseminar in International Politics (3)

Research concepts and techniques applied to an individual project in International Relations. Offered only as a companion course to Political Science 350.

370 Judicial Process (3)

The nature and function of the Anglo-American legal system and its role in the American political system. To be taken in conjunction with Political Science 371 when offered by same instructor.

371 Research Proseminar in Judicial Process (3)

Research concepts and techniques applied to an individual project in judicial process. Offered only as a companion course to Political Science 370.

400 Problems in American Government (3)

An examination of such problems as the role of the federal government in regard to pollution, drugs and narcotics (research, education, law enforcement, international agreements), the seniority system in Congress; the role of lobbies, etc., using government reports, Congressional hearings, newspapers and journals of opinion. May be repeated for credit.

405 Politics of Experience (3)

Prerequisite: consent of instructor. A senior research proseminar stressing the theory and application of simulation models, including decision-making, game theory and group encounter techniques with respect to politics. Individual and group research encounter techniques will be utilized.

406 Scope and Theory of Political Science (3)

A senior proseminar in political science. The nature of the discipline: approaches, tools, concepts and theories. Highly recommended for all political science majors planning to do graduate work.

407 Quantitative Methods in Political Science (3)

A course in statistics which are relevant to the analyzing of political data. It will be presumed that students have only high school mathematics. Designed mainly for seniors who are thinking about going to graduate school or are graduate students.



Political Science

410 Political Parties (3)

Prerequisite: consent of instructor. The structure and methods by which the political parties operate in the American political system with some comparisons to their structure and operation in other democratic societies.

411 Art of Administration (3)

Prerequisite: consent of instructor. An examination of public administration as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

412 The Art of Politics (3)

Prerequisite: consent of instructor. An examination of politics as it is practiced and understood by practitioners of the art. A seminar which features guest lecturers.

413 Pressure Groups and Public Opinion (3)

The power and growth of farm, labor, business, and noneconomic pressure groups; interest group activity in Congress; administration and courts; public opinion and propaganda.

414 The Legislative Process (3)

The nature of the legislative process in the United States including the organization and procedures of legislative bodies, direct legislation and the relationships of the legislative branch to other branches of government. Legislative systems will be analyzed comparatively.

415 Political Behavior (3)

Prerequisite: consent of instructor. The application of behavioral methodology to the understanding of individual political behavior within various governmental and social situations. The formation of attitudes and opinions, their measurement and relationship to political behavior.

416 The American Presidency (3)

A study of the growth of the office and power of the President, of his relationship to his advisers and the executive departments. Congress and the courts, state governments and the public. The role of the President as chief policymaker and administrator, party and public opinion leader, with particular attention to developments during international and domestic crises.

417 Student Protest (3)

Prerequisite: consent of instructor. The dynamics of student protest with major attention given to contemporary activities in the U.S. (Same as Interdisciplinary Center 452)

418 Public Policy Process (3)

Analysis of various public policy-making models and evaluation of their applicability to selected contemporary policy issues.

419 Administrative Organization and Process (3)

Prerequisite: consent of instructor. A course designed for students planning to enroll in graduate-level public administration courses, but who have not had an introductory course in public administration. Topics as organizational theory and practice, decision making, systems analysis, performance evaluation and administrative improvement.

420 Urban Politics and Administration (3)

Structure and function of urban government, with emphasis upon community decision-making and group influence.

421 Public Finance Administration (3)

Prerequisite: Political Science 320 or 419. The role of finance administration and budgeting in the determination of public policy, and in the administrative planning and management of governmental operations in the United States. Examines the relationship of assessment administration to governmental revenues and expenditures, the principles and practices of cost accounting, treasury management, and capital budgeting.

422 Public Personnel Administration (3)

Prerequisite: Political Science 320 or 419. The growth and development of the civil service and the merit system; an evaluation of recruitment procedures and examinations; an analysis of such topics as position classification, salary structures, retirement plans, in-service training, employees organizations, and personnel supervision.

423 Regional Planning and Development (3)

Prerequisite: consent of instructor. A study of governmental policies, procedures, and agencies involved in the planning and development of regions. The concept of regions, survey of regional problems, and objectives, developmental prospects of regions, emerging views of regional planning, and intra- and interregional investment allocation during the development process.

424 Urban Planning and Development (3)

Prerequisite: consent of instructor. The origins and development of city planning; the legal bases and fundamental concepts of planning are defined; and the organization and administration of the planning activity are examined. The major elements of the general plan, zoning laws and administration, urban renewal, and capital programming are considered.

425 Comparative Public Administration (3)

Prerequisites: Political Science 320 or 419. Strongly recommended for students planning to concentrate in comparative politics. Cross cultural comparison of public administration systems; application of different models of analysis to administrative institutions; bureaucracy; the ecology of public administration in modernized and developing societies; and the role of public administration in nation-building.

426 Administrative Research and Analysis (3)

Prerequisite: Political Science 320 or 419. Concepts and methods employed in administrative research and anlysis, with emphasis on organization and procedure surveys, performance evaluation techniques, administrative data sources and their uses, and report writing.

427 Metropolitan Politics and Administration (3)

Prerequisite: consent of instructor. The politics and administration of metropolitan area institutions of government, with emphasis upon their problems and alternative solutions.

428 Administrative Systems and Analysis (3)

Prerequisite: Political Science 320 or 419. Administrative systems and analysis in contemporary government, with emphasis upon systems planning and design, data processing, work flow, control systems, operations research, cost-benefit analysis and forms design.

430 Government and Politics of a Selected Nation-State (3)

Prerequisite: Political Science 330 or consent of instructor. Analysis of the political institutions and processes of a selected nation-state. May be repeated for credit.

395

431 Government and Politics of a Selected Area (3) (Formerly 431, 433, 435, 436, 437, 439)

Prerequisite: Political Science 330 or consent of instructor. A comparative analysis of the structures and functions of the national political systems in a selected geographic area, such as Western Europe, Eastern Europe, Africa, South and Southeast Asia, Latin America and the Far East.

438 Latin American Interest Groups (3)

Consideration of the role of church, military, business, peasant and bureaucratic groups in Latin American society with particular interest in their impact on the quest for governmental stability and economic development.

440 Political Ideologies and Attitudes (3)

Content and appeals of contemporary ideologies. Social, economic and psychological bases of political attitudes and preferences.

442 Problems of Democratic Political Thought (3)

Problems relevant to philosophies and theories of democratic political systems, with emphasis on American political thought.

443 The Theory and Philosophy of Marxism (3)

Prerequisite: Political Science 340. An analytical study of Marxist theory and philosophy from its pre-Hegelian roots to the present.

450 Conduct of American Foreign Relations (3)

Formulation and execution of foreign policy. The roles and powers of the President, Senate, and House of Representatives. The functions of the Department of State and Foreign Service, United States Information Agency, Agency for International Development (AID); the role of the Pentagon; public opinion and pressure groups. Separation of powers, checks and balances, and cooperation in the conduct of American foreign policy.

451 Problems in International Relations (3)

Prerequisite: Political Science 350. Examination of selected problems in various countries and geographic areas with a definite impact on International Relations, such as nationalism, colonialism, anticolonialism, neutralism, racism, ethnic and linguistic minorities, border disputes, governmental instability, economic poverty, disease, illiteracy and overpopulation.

452 Foreign Policy of a Selected Country or Group of Countries (3)

Objectives, capabilities, policy-making processes, and implementation of the foreign policies of a particular country or group of countries. Focus may be on United States, Soviet Union, Latin America or other countries or areas. May be repeated for credit.

461 The United Nations and Other Public International Organizations (3)

Prerequisite: Political Science 350. Structure and functions of United Nations and various specialized and regional international organizations.

462 Politics of European Integration (3)

Prerequisites: consent of instructor. Analysis of the structures and functions of supranational institutions such as EEC, WEU, EFTA, etc. Concepts and prospects of European integration.

473 Seminar in Constitutional Law and Governmental Power (3)

Prerequisites: consent of instructor. Case studies, selected problems in the exercise of governmental authority, especially involving social and economic regulation; federalism; and the relationships among legislative, executive, and judicial branches of government.

474 Seminar in Constitutional Law and Civil Liberties (3)

Prerequisite: consent of instructor. Case studies in selected constitutional rights and liberties.

475 Administrative Law (3)

Prerequisite: consent of instructor. The study of law as it affects public officials and agencies in their relations with private citizens and the business community. Attention is given to appropriate case materials and regulatory practices.

476 International Law (3)

Prerequisite: Political Science 350. The sources and nature of international law; its role in a world of sovereign states; the law of war and peace; the rights and duties of nations in their international relationships. The World Court; purpose, problems, and prospects.

481 Politics Through Literature (3)

Uses the novel as a means of explicating political behavior in various nation-states.

497 Government Internship (3)

Prerequisites: public administration concentration and consent of instructor. Students work 15-20 hours per week as supervised interns in a public agency or related organization. Supervision is provided by the faculty and cooperating agency. In addition to the job experience, interns meet in a weekly three-hour seminar.

498 Political Internship (3)

Prerequisite: political science concentration and consent of instructor. Students work 8-12 hours per week with elected officials or candidates for elective office. Individual supervision is provided by the faculty and cooperating individuals. Interns meet with the instructor by arrangement. May be repeated for credit.

499 Independent Study (1-3)

Open to advanced students in political science by permission of the department chairman.

(Prerequisite for each graduate course is explicit consent of instructor.)

501 Readings in Political Science (3)

A seminar surveying the major works in the discipline of political science; strongly recommended for all students seeking an M.A. in Political Science or an M.P.A.

506 Seminar in the Scope and Theory of Political Science (3)

The nature of the discipline, approaches, tools, concepts and theories.

511 Seminar in American Politics (3)

A comprehensive examination of the political process in the United States.

515 Seminar in Political Behavior (3)

An intensive analysis of selected topics in political behavior.

520 Seminar in Public Finance Administration (3)

Study of selected topics in public finance administration.

521 Seminar in Public Administration Theory (3)

Study of the concepts, models and ideologies of public administration within the larger political system.

397

Political Science

522 Seminar in Public Personnel Administration (3)

Study of selected topics in public personnel administration.

524 Seminar in Environmental Planning (3)

Specialized study of problems and issues in the physical and human environment of the urban community.

525 Seminar in Metropolitan Area Government (3)

Study of the different approaches to metropolitan areawide government, with special emphasis on interjurisdictional conflict and cooperation and the roles of state and national governments.

526 Seminar in Administrative Behavior (3)

Concepts, functions and techniques of administrative leadership; group dynamics; decision-making; the organization and the individual.

527 Seminar in Comparative Public Administration (3)

Study of selected topics in comparative public administration.

528 Seminar in Administration of Public Policy (3)

Study of the interplay between public policy development and program administration.

529 Seminar in Administrative Management Theory (3)

Prerequisite: consent of instructor. Study of selected topics in organization and management theory.

531 Seminar in Comparative Politics (3)

A comparative study of political systems.

535 Comparative Political Parties (3)

Comparative analysis of the structure, behavior, and roles of political parties and party systems. An attempt to construct a theory of parties, based on the evidence of a number of national political parties.

541 Seminar in Political Theory (3)

A comprehensive examination of ideologies, concepts, methods and trends in political theory.

550 Seminar on Foreign Policy Formulation (3)

A study of various models of the foreign policy-making process. Emphasis will be on the interaction between domestic and international sources for policy formulation.

551 Seminar in International Relations (3)

Study of selected problems in international relations with emphasis on individual research and contributions within the framework of a seminar. May be repeated for credit.

571 Seminar in Public Law (3)

Study of selected topics in public law.

597 Project (3)

Prerequisite: consent of instructor.

598 Thesis (3-6)

Prerequisite: consent of instructor.

599 Independent Graduate Research (1-3)

Open only by permission of department chairman. May be repeated for credit.

DEPARTMENT OF PSYCHOLOGY

FACULTY

Ernest H. Dondis Department Chairman

Robert Abbott, Roland Calhoun, Dwight Curtis, Peter Ebersole, Margaret Fitch, Larry King, Jara Krivanek, Richard Lindley, William Lindner, Richard McFarland, David Perkins, Louis Schmidt, Don Schweitzer, William Smith, Edward Stearns, Joseph Thomas, Loh Seng Tsai, George Watson

BACHELOR OF ARTS IN PSYCHOLOGY

The major in psychology consists of 36 units of lower and upper division work designed for students (1) who want a sound background in psychology as a science, (2) who want a basic understanding of human behavior as a supplement to some other major course of study, and (3) those who wish to acquire a thorough undergraduate training in psychology in anticipation of graduate study.

Requirements for the Major

L	ower Division	a working the vancour held, incoming this constitution an	Units
	Psychology 101	Introductory Psychology	3
		Elementary Statistics	3
	Psychology 202	Principles of Psychology	3

Upper Division

A minimum of 27 units of upper division work is required for a major in psychology. Fifteen units are required as follows:

Psychology 302 Experimental Psychology: Learning and Motivation 3	
Psychology 303 Experimental Psychology: Sensation Perception or	
Psychology 321 Physiological Psychology3	
Psychology 351 Social Psychology or	
Psychology 331 Psychology of Personality 3	
Psychology 461 Group Psychological Testing3	
Psychology 408 History of Psychology3	

A minimum of 12 additional units in psychology courses will be selected in consultation with the academic adviser. Not more than 3 units of Psych. 499, Independent Study, may be counted toward the major.

Each course counted toward the major must be completed with grade of C or higher.

Recommend Related Courses

Courses from each of the following areas according to the student's interests: (1) social sciences; (2) physical sciences; (3) biological sciences; (4) mathematics;

(5) humanities.

Students planning to do graduate work in psychology are advised to plan additional work in biological, physical, and computer sciences and to include at least a one-semester course in college mathematics. Undergraduate work in foreign languages is also recommended.

MASTER OF ARTS IN PSYCHOLOGY

This degree is planned to extend the body of psychological knowledge developed in the undergraduate major and result in the development of greater depth in understanding the content of psychology; increased skill in research capabilities; the professional reporting of research; potential career skills; and sound preparation for students planning to go on to advanced graduate work. On completion of this program, students will have a better understanding of the many and complex disciplines in psychology as well as an understanding of related behavioral and scientific areas of study.

399

Psychology

Prerequisites

Students to be admitted to the program must: (1) meet the general prerequisites for graduate work formulated and recommended by the college; (2) have completed a bachelor's degree with a major in psychology or 24 units in upper division psychology including a course in statistics, a course in the history of psychology, an upper division laboratory course in psychology, at least two of the following courses: physiological psychology, learning, sensation and perception, motivation, and at least one of the following courses: social psychology, personality, developmental psychology; psychological testing; (3) have completed a course in college mathematics, a course in the biological sciences, and a course in sociology or anthropology; (4) have completed a baccalaureate degree with a 2.5 general average and a 3.0 average in psychology; (5) show satisfactory performance on the aptitude test and the advanced test in psychology, which are parts of the Graduate Record Examination.

Program of Study

The Master of Arts in Psychology requires a minimum of 24 units of approved graduate work in the major field, including the completion and acceptance by the Psychology Department Graduate Study Committee of a written thesis, plus six units of approved work for graduate credit from other related areas.

The student, in consultation with an adviser on the staff of the Psychology Department, shall develop a program of studies which will be submitted to the Graduate Study Committee of the Department of Psychology for approval.

Course requirements for the M.A. in Psychology:

bourse requirements for the war. In rayenology.	Inits	Totals
Psychology 500 Advanced General Psychology	3	
Psychology 510 Experimental Design	3	
Psychology 520 Seminar: Experimental Psychology	3	
Psychology 521 Seminar: Personality or Psychology 551 Semi-		
nar: Social Psychology	3	
Psychology 598 Thesis	3-6	15-18
Related courses outside psychology	6	6
Elective courses in psychology	6-9	6-9
Total units for M.A. in psychology		30

Students will be required to pass a comprehensive examination in psychology and to complete satisfactorily 12 units of the study plan before being advanced to candidacy. An oral defense of the thesis is required at the completion of the student's program.

For further information, consult the Department of Psychology.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

PSYCHOLOGY COURSES

101 Introductory Psychology (3)

General introduction to basic concepts and problems in psychology as a behavioral discipline. Emphasis upon the human organism as an adapting system, with attention to genetic origins; normal development and capacities; problem-solving and adjustment to stress.

161 Elementary Statistics (3)

Prerequisites: Psych 101 and Math 120. An introductory course in statistics. Descriptive statistics, hypothesis testing, analysis of variance, correlation.

202 Principles of Psychology (3)

Prerequisite: Psych 101. A course for psychology majors stressing the fundamentals of research methods as they apply to basic areas in psychology. Emphasis will be placed on student participation in conducting experiments and analyzing data.

231 Psychology of Personal Adjustment (3)

Prerequisite: Psych 101. Dynamics of personal adjustment and interpersonal relations. Nature of conflict and frustration; demands of changing social roles; and attitudes, opinions and prejudices as they affect the individual and his relationships to others.

302 Experimental Psychology: Learning and Motivation (3)

Prerequisites: Psych 101, 202, 161 or consent of instructor. Selected experimental investigations in human and animal learning, memory, thinking, problem solving, and motivation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

303 Experimental Psychology: Sensation and Perception (3)

Prerequisites: Psych 101; 202; 161 or consent of instructor. Selected experimental investigation with appropriate lecture and discussion. (2 hours lecture, 3 hours laboratory)

304 Experimental Psychology: Comparative (3)

Prerequisites: Psych 101; 202; 161 or consent of instructor. Behavioral similarities and differences between species as related to their position on the phylogenetic scale; the relation of changes in activity, motivation, emotionality, complexity, plasticity and adaptiveness of behavior to changes in sensory, motor, endocrine and neural structures as well as genetic and environmental factors. (2 hours lecture, 3 hours laboratory)

311 Educational Psychology (3)

Prerequisite: six units in psychology. Application of psychological research and theory to the educative process. Major attention given to the problems of learning, individual differences, child capacities, and behavior.

321 Physiological Psychology (3)

Prerequisites: Psych 202 and Bio Sci 101 or equivalent. Survey of relations between behavior and biological processes. Anatomy and physiology of the nervous system, role of neural and humoral agents in perception and complex behavior (emotion, etc.), behavorial effects of brain lesions, the effects of drugs on behavior, psychosomatic disorders and motivation. (2 hours lecture, 3 hours laboratory)

331 Psychology of Personality

Prerequisite: Psych 202. Concepts of personality development, structure, and dynamics, with emphasis upon problems, methods, and findings in the study of personality.

341 Abnormal Psychology (3)

Prerequisite: Psych 231 or 331. Dynamics, symptoms, causes, treatment, and prevention of neuroses, psychoses, alcohol and drug addiction, psychosomatic illnesses, and character disorders.

342 Mental Health (3)

Prerequisite: Psych 101. An analysis of the concepts of mental health with emphasis upon positive factors in the individual, group, and community which are conducive to improving mental health. (Credit not given as part of psychology major.)

Psychology

351 Social Psychology (3)

Prerequisite: Psych 101. Study of phenomena of social interaction and the nature of group processes and influences. Attention paid to the intrapsychic effects of group influences on the individual's behavior.

361 Developmental Psychology (3)

Prerequisite: Psych 101. Concepts and processes involved in the understanding of the psychological development of the person from infancy through adulthood. Attention is given to stages in the development of cognition, emotion, perception, motivation, and to the interaction of these processes.

391 Industrial Psychology (3)

Prerequisites: Psych 161 or 202. Study of psychological principles and techniques in industrial and business settings. Includes selection, placement, training, human factors, environmental influences, problems of people at work, and consumer behavior

408 History of Psychology (3)

Prerequisites: Psych 302, and 303 or 321. Survey of the development of psychology from early times to the present.

411 Human Learning and Memory (3)

Prerequisite: Psych 302. Theoretical and experimental analysis of the acquisition, retention, and transfer of verbal and motor responses. Consideration of single vs. multiple memory storage systems and of the role of reward, information, and motivation in human learning.

412 Psychology of Learning (3)

Prerequisite: Psych 302 or consent of instructor. Principles of learning according to the major theoretical systems. Critical evaluation of the theories and systems.

413 Perception (3)

Prerequisite: Psych 303 or consent of instructor. Psychological problems in perception.

415 Cognitive Processes (3)

Prerequisite: Psych 302, 303 or 304. Consideration of theory and research with respect to problem solving, thinking, concept learning, language, decision making and judgment, cognitive structure, cognitive development.

431 Theories of Personality (3)

Prerequisite: Psych 331 or consent of instructor. Personality structure, development, and dynamics according to major theories. Research methods as they apply to personality theory.

440 Laboratory Instrumentation in Psychology (3)

Prerequisites: Psych 302 and 303 or 321. A laboratory course in basic instrumentation in psychology. Major attention given to sensory, analog, digital, and electromechanical instrumentation. (2 hours lecture and 3 hours laboratory)

441 Experimentation in Personality (3)

Emphasis on methodological approaches to the study of personality. Students will be required to design experiments, collect data and write reports. Specific topics covered will vary according to the interests of the instructor and students. (2 hours lecture and 3 hours laboratory)

451 Experimental Social Psychology (3)

Prerequisites: Psych 161 or equivalent, 202; and 351. Study in depth of selected phenomena of social interaction and the nature of group processes and influences. Laboratory experience in experimental investigation of attitude formation and change; group processes such as communication, and problem-solving and formation of norms; interpersonal processes of influence and perception. (2 hours lecture, 3 hours laboratory)

453 Attitude Formation and Change (3)

Prerequisite: Psych 351 or consent of instructor. An intensive study of the theories of attitude development, stressing research methodologies in this area.

455 Small Group Process (3)

Prerequisite: Psych 351. A survey of the theories and methods of research used in the study of small groups with laboratory application in a small ongoing group in which the student will participate. (2 hours lecture and 3 hours laboratory)

461 Group Psychological Testing (3)

Prerequisite: Psych 161 or equivalent. Intelligence, aptitude, interest, and personality testing. Theory, construction, evaluation, interpretation, and uses of psychological tests.

465 Advanced Psychological Statistics (3)

Prerequisites: Psych 161 and Math 120 or equivalent. Statistical inference.

471 Behavior Modification (3)

Prerequisite: Psych 302. An exposition and evaluation of theories and techniques for modifying behavior including operant conditioning methods. (2 hours lecture, 3 hours laboratory)

475 Psychopharmacology (3)

Prerequisites: Psych 321 or 15 units of biology. Basic principles underlying the use of drugs and related substances to modify experience and behavior. Historical and cultural variations in drug usage. Psychological, medical and social potentialities and limitations of these techniques.

481 Survey of Clinical Psychology (3)

Prerequisites: Psych 331, 341, and 461. Development and contemporary aspects of the field. Methods, diagnosis, therapeutic techniques, research, and problems.

499 Independent Study (1-3)

Prerequisites: completion of at least one upper division laboratory course and consent of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

500 Advanced General Psychology (3)

An integration of key concepts in learning, motivation, perception, personality and social psychology.

510 Experimental Design (3)

Prerequisites: Psych 161 and 465. Principles and methods of planning and carrying out systematic investigations on the behavior of complex organisms, interdependence of experimental design and statistical evaluation of results, and the opportunity for practice in formulation of testable hypotheses.

511 Seminar in Psychological Measurement (3)

Logic and methodology of measurement in the areas of intelligence, personality, judgment, and attitudes: problems of test construction and validation. May be repeated for credit.

Psychology

520 Seminar: Experimental Psychology (3)

Prerequisites: graduate standing; Psych 465 and 500. Study in depth of the data, methods, problems and current developments in sensation-perception; animal learning; human motor and verbal learning; thinking and problem solving; and motivation. May be repeated for credit.

521 Seminar: Personality (3)

Prerequisites: graduate standing; Psych 500. An intensive study of central problems in personality. Intensive study current problems and theories in these areas. May be repeated for credit.

523 Seminar: Comparative Psychology (3)

Prerequisites: graduate standing and consent of instructor. A study in depth of some aspect of animal behavior. Comparisons between species and biological determinants of behavior will be emphasized. May be repeated for credit.

531 Individual Mental Testing (3)

Prerequisite: Psych 461. Study of the major tests of intelligence. Emphasis upon practical experience in administration, scoring, and interpretation of these instruments.

551 Seminar: Social Psychology (3)

Prerequisites: graduate standing and Psych 500, and either Psych 351 or consent of instructor. An intensive study of central problems and major theories in the field of social psychology. May be repeated for credit.

598 Thesis (3-6)

Prerequisites: formal admission to candidacy and consent of instructor. The writing of a thesis based on a major study or experiment in psychology.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of instructor. Individual library study or experimental investigation under direction of a staff member. May be repeated for credit.

DEPARTMENT OF RELIGIOUS STUDIES

FACULTY
Donald H. Gard
Department Chairman

Morton Fierman, Joseph Kalir, Robert McLaren (Education), James Santucci

BACHELOR OF ARTS IN RELIGIOUS STUDIES

This program leads to the B.A. in Religious Studies and is designed to encourage students to acquire the intellectual tools and scholarly background required for a critical understanding of the forms and traditions of religion that have appeared in human culture.

Students in fields other than religion are encouraged to ask the questions which pertain to the real excitement at the boundary lines where the usual studies converge. The aim of each course is an open and nontraditional examination of ultimate questions as they apply to contemporary situations. The relevance of belief in both Eastern and Western civilizations for the cultural development of man is examined. Guest lecturers from fields other than religion present their understanding of the art of living and of loving. An understanding of prejudice, war and other dimensions of religious value systems may thus be gained.

Major in Religion

Six hours of introduction to world religions and a senior seminar on contemporary religious issues are required.

An Introduction to World Religions (6)
Semester One: Western Religions (3)
Semester Two: Non-Western Religions (3)
Senior Seminar: Contemporary Religious Issues (6)

In addition to the required Introduction to World Religions (6) plus the required seminar, Contemporary Religious Issues (6), the student will be asked to choose at least six hours of courses from each of the following categories of courses:

- 1. The History and Sociology of Religion: religion studied as a cultural phenomenon with the historical context; its development and controversies; religion and science; religion and economics; the sociology of religion.
- 2. The Phenomenology of Religion: religion as a human phenomenon; the psychology of religion; the philosophy of religion; linguistic analysis of religious language; religion and poetry, the arts.
- Comparative Religion: a study of religious traditions and practices in Western and non-Western cultures; religious scriptures; comparative theology; major religious figures.

The student will also be required to take two years of college level study (minimum of 12 hours or its equivalent by examination) of a language approved by the adviser.

The following courses are included under the three categories of courses listed

above:

1. History 425B, The Reformation; History 412A,B, Ancient Near East; History 417A,B, History of Roman Empire; History 466B, The Turkish World; Sociology 458, Sociology of Religion; Anthropology 421, Anthropology of Religion; Religious Studies 303, Rabbinic Literature: The Writings of Law and Lore; Religious Studies 305, Old Testament Prophets; Religious Studies 306, Wisdom Literature; Religious Studies 308, Judaism: From the Beginning to the Middle Ages; Religious Studies 309, Judaism: From the Middle Ages to the Present; Religious Studies 310, History and Development of Christianity;

Religious Studies

Religious Studies 320, Buddhism; Religious Studies 322–323, Indian Religions; Religious Studies 324–325, Religions of China and Japan; Religious Studies 410, Theology and Contemporary Life; Religious Studies 425, Religion in Western Culture; Religious Studies 485, Major Contemporary Religious Thinkers; Religious Studies 486, Major Contemporary Religious Topics.

- 2. Philosophy 370, Philosophy of Religion; Philosophy 323, Contemporary Existentialism; Comparative Literature 312, Bible as Literature; Interdisciplinary Center 404, Nature of Love: Plato to Joyce; Interdisciplinary Center 403, Quest for Self: East and West; Interdisciplinary Center 451, Philosophical Backgrounds of Modern Literature; Interdisciplinary Center 402, Art, Literature, and Development of Consciousness; Religious Studies 304, Religion and Cultural Crisis; Religious Studies 307, Dimensions of Religion; Religious Studies 405, Myth and Legend in Ancient Israel; Religious Studies 406, Anxiety, Guilt and Freedom; Religious Studies 410, Theology and Contemporary Life; Religious Studies 485, Major Contemporary Religious Thinkers; Religious Studies 486, Major Contemporary Religious Topics.
- 3. Philosophy 110, Comparative Study of the World's Great Religious; Religious Studies 111, Problems in the History of Religious Thought; Interdisciplinary Center 303, Yoga; Religious Studies 400, Jewish Mythology, Religion and Mysticism; Interdisciplinary Center 422, Jewish and Comparative Mysticism; Religious Studies 303, Rabbinic Literature: The Writings of Law and Lore; Religious Studies 305, Old Testament Prophets; Religious Studies 306, Wisdom Literature; Religious Studies 307, Dimensions of Religious Studies 308, Judaism: From the Beginning to the Middle Ages; Religious Studies 309, Judaism: From the Middle Ages to the Present; Religious Studies 320, Buddhism; Religious Studies 324–325, Religions of China and Japan; Religious Studies 420, The Worlds of Martin Buber.

Courses in other schools and departments may be acceptable upon consultation with the chairman of the Department of Religious Studies.

RELIGIOUS STUDIES COURSES

111 Problems in the History of Religious Thought (3)

Prerequisites: Philosophy 110 or consent of Department of Religious Studies. An examination of some of the perennial problems that have appeared in the religious traditions of both East and West.

303 Rabbinic Literature: The Writings of Law and Lore (3)

The historical, sociological and cultural background of the beginnings of the Talmud. The Talmud as one basis of modern ethics. Special stress will be laid on: man as a moral being, free will, labor, justice, truth and truthfulness, peace, charity, parents and children, country and community.

304 Religion and the Cultural Crisis (3)

The role of religion in contemporary cultural crises and in history with such topics as the development of the family unit, sexual relationships and forms of worship.

305 Hebrew Prophets (3)

Lectures and seminar discussions dealing with the cultural, historical, values of and contemporary application of Isaiah, Second Isaiah, Jeremiah, Ezekiel and the minor prophets. (Same as Comparative Literature 305)

306 Wisdom Literature (3)

The interpretation of values in Proverbs, Job, Ecclesiastes, Ecclesiasticus, the Wisdom of Solomon, Egyptian and Mesopotamian Wisdom writers as applied to the modern world.

307 Dimensions of Religion (3)

The great themes of religious thought viewed objectively and subjectively in history and in the present day are studied as a basis for understanding religious relevance and application. Seminar and discussion presentation.

308 Judaism: From the Beginning to the Middle Ages (3)

The historical role of the religion of the Jews will be studied and the distinction will be drawn between the various forms of contemoprary Judaism: Orthodox, Conservative, and Reformed from the beginning to the Middle Ages.

309 Judaism: From the Middle Ages to the Present (3)

The history and contemporary social significance of the religion of the Jews from the Middle Ages to the present, with emphasis upon contemporary Judaism.

310 History and Development of Christianity (3)

An introduction to the Jewish background of Christianity, the person and work of Jesus, and the development of the church from the days of the apostles down to the present ecumenical era of Christendom.

320 Buddhism (3)

Survey in the Vedas, Upanişads, and Bhagavad Gitā. Special emphasis will be placed upon Theravāda Buddhism, its teaching, development, and importance with regard to the nature of man.

322 Indian Religions (3)

Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanişads, Buddhism and Vedānta.

323 Indian Religions (3)

Prerequisite: Religious Studies 322 or consent of instructor. Discussion of all the major religions of ancient India. Special emphasis will be placed upon the Upanisads, Buddhism and Vedānta.

324 Religions of China and Japan (3)

Prerequisite: Religious Studies 111 or Philosophy 110 or consent of instructor. The major religions of China and Japan will be discussed with special emphasis upon Taoism, Buddhism, and Confucianism. There will also be a discussion of Chinese influence on Japan and the Japanese reaction to this influence.

325 Religions of China and Japan (3)

Prerequisites: Religious Studies 111 or Philosophy 110, Religious Studies 324 or consent of instructor. The major religions of China and Japan will be discussed with special emphasis upon Taoism, Buddhism, and Confucianism. There will also be a discussion of Chinese influence on Japan and the Japanese reaction to this influence.

400 Jewish Mythology, Religion and Mysticism (3)

Prerequisite: Religious Studies 309 or consent of instructor. The principal features of Jewish mysticism, its inner significance, its problems and its meaning. An anlysis of some of its most important phases. A new illustration of the function which Jewish mysticism has had at varying periods, of its ideals and of its approach to the various problems.

Religious Studies

405 Myth and Legend in Ancient Israel (3)

Prerequisite: Religious Studies 308 or consent of instructor. Comparative folk-lore and mythology of the Old Testament, The myths and stories of the Old Testament.

406 Anxiety, Guilt and Freedom (3)

The distinction between psychiatry and religious methods of understanding basic human emotions will be examined together with an analysis of terms such as "authority", "God", "faith", "forgiveness", "sin", "error", "repentance", "sex", and "absolution".

410 Theology and Contemporary Life (3)

Prerequisite: Religious Studies 310 or consent of instructor. An exploration of major theological issues, and their relevance for contemporary social problems: God, nature, man, sin, revelation, reconciliation; culture and creativity, marriage and divorce, poverty, war, race, international relations, political and economic authoritarianisms.

420 The Worlds of Martin Buber, "The Philosophy and Theology of Martin Buber" (3)

A detailed and critical study of Buber's views concerning relationship of man to God and man to man.

425 Religion in Western Culture (3)

An examination of groups and individuals whose writings and ideas have been formative in the development of Western culture from classic times to the present.

485 Major Contemporary Religious Thinkers (3)

Prerequisites: Philosophy 110, Religious Studies 111, or the equivalent. A detailed and critical study of religious thinkers contemporary to the modern world. This course number may be repeated with different content for additional credit.

486 Major Contemporary Religious Topics (3)

Prerequisites: Philosophy 110, Religious Studies 111, or the equivalent. An indepth inquiry into modern topics of a religious nature related to social, political, psychological trends. This course number may be repeated with different content for additional credit.

499 Independent Study (1-3)

Supervised research projects in religious studies to be taken with the consent of the instructor and the program coordinator. May be repeated for credit.



MATHEMATICS EDUCATION

FACULTY

George C. Turner Department Chairman

Gloria Castellanos, Francis Collea, John Cooper, George Hoetzl, L. Clark Lay, Robert Lepper, Neil Maloney, George Millikan, David Pagni, H. Eric Streitberger, Charles Williams, Margaret Woyski

The Department of Science and Mathematics Education offers three programs in the general science area: Earth Science Program, Nature Interpretation and Conservation Program; and the Science and Mathematics Education Program. Degrees and curricula offerings in each area are described below.

PROGRAM IN EARTH SCIENCES

BACHELOR OF ARTS IN EARTH SCIENCE

This program is designed to provide a broad foundation in the earth sciences to prepare students for (1) graduate work in one of the earth sciences, (2) teaching earth science in secondary and elementary schools, (3) employment in government and industry, and (4) other major fields supported by an earth science minor.

To qualify for the bachelor of arts in earth science, students must have a C average in all courses required for the major including those in related fields. No credit will be allowed toward the major for earth science courses passed with a grade of D. A proficiency in one modern foreign language (German, Russian, French, others by petition) is required. This requirement is normally met by completing one semester of readings in scientific foreign language (303) with a grade of C or better. Alternatives may be substituted by petition. Proficiency in English composition is required. This requirement is normally met by passing an upper division course in composition; the department may waive the requirement for students who consistently submit written work of superior quality.

Minimum Course Requirements for the Earth Science Major

Of the 124 units required for graduation, 36 units are in earth science, 46 units in related fields, 27 units in general education courses which are not included among the related fields, and 15 units are undesignated.

The upper division units in earth science, Studies in Geoscience, are offered in four blocks which unify the major concepts of the geosciences. Each block consists of problems of increasing complexity designed to explore a wide variety of ideas and techniques. Each student may choose his own sequence of topics as he progresses through a block, and may progress at his individual rate. Although each student is required to take all the blocks, he is free to develop his special interests within the framework provided.

Courses in Earth Science Lower Division		Units
101 Physical Geology	4 4	
Total	reio S	8

301	Studies in Geoscience, geocl	hemistry	Units 6	
202				
302 350				
401				
402	Studies in Geoscience, geopt	lysics		
	Total		28	A
		Williams, Margarec Maguel	restrect, Charles	36
THE RESERVE	in Related Fields			
Mathe	ematics 150A,B Analytical Ge	eom and Calculus	8	
Physic	cs 225—Three parts of A,B,C,I —Two parts of A,B,C. Funda	and and an agent	curricula offer	
226-	-Two parts of A,B,C. Funda	mental Physics	11	
	istry 101A,B General Chemis			
	gical Science 101 Elements of			
	raphy 312 Geomorphology		3 20 4	
	ves, chosen from related field or adviser	is in consultation with	9	
Т	otal		Side Common	46
General	education courses, not include	ding those in related fields.	ana di si su	27
	s, undesignated	solver all Present Lyan Re	ad Ulwailber	15
	CARACTURE CONTRACTOR			
reith a	satisfication and Walliamson but will be to the original to	m for a Major in Earth Scie	deting one an	124
Mathe Chem Mode	Recommended Progra hool Preparation ematics—4 years, including trig istry and/or Physics arn Foreign Language—3 years	on for a Major in Earth Scient conometry (German, Russian, or Frenc	define one and of each of the construction of	124
Mathe Chem Mode Altern	Recommended Programment of Preparation rematics—4 years, including triguistry and/or Physics remarks are Language—3 years mate courses if high school pregonometry (community colleges)	onometry (German, Russian, or Frence	define one and of each of the construction of	124
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Junior I	Junior II
Earth Sci 301 Studies in Geosci 6 Physics 225C or D	Earth Sci 302 Studies in Geosci 6 General education elective
Senior I	Senior II
Earth Sci 401 Studies in Geosci 6 Elective in related field 3 Electives 6	Earth Sci 402 Studies in Geosci 6 Electives

MINOR IN EARTH SCIENCE

A minimum of 20 units are required for a minor. These will typically include eight units of lower division earth science and 12 units of Studies in Geoscience. The topics for study shall be selected by the student in consultation with his minor adviser.

EMPHASIS IN NATURE INTERPRETATION AND CONSERVATION

In recognition of the need for education in nature interpretation and conservation the Department of Science and Mathematics Education is developing coursework in these disciplines. Much of the coursework for these areas will take place at the nearby Tucker Wildlife Sanctuary. This sanctuary has been designated as a center for research and nature interpretation. In addition to research and coursework, the sanctuary will provide a continuing public service to the community through its daily programs in nature interpretation. This service is provided by resident professor-naturalists and student-naturalists in training at the facility. School groups as well as adults are invited to attend the regularly scheduled programs.

Courses Presently Offered

350 Field Biology and Conservation (3)

454 Seminar: Public Contact Procedures (2)

460 Applied Conservation (4)

470 Field and Museum Interpretation Techniques (3)

479A,B Supervised Naturalist Activities (3,3)

Additional courses leading to departmental certification in Conservation Studies and a possible graduate degree program are in preparation. Students interested in such coursework should contact the Department of Science and Mathematics Education for additional information.

PROGRAM IN SCIENCE AND MATHEMATICS EDUCATION

The Department of Science and Mathematics Education prepares students to teach in the areas of science and mathematics at the elementary and secondary levels, provides guidance for experienced teachers in the study and use of educational practices developed for the teaching of sciences and mathematics and helps teachers develop original ideas in their areas of specialization.

The offerings of this department include basic professional training courses required for teacher certification, advanced coursework in science and mathematics education, and certain academic content offerings designed especially for teacher

preparation.

Requirements for teaching majors and minors in science and mathematics are listed under the respective academic departments.

REQUIRED COURSEWORK

The following courses offered by the Department of Science and Mathematics Education are required for teaching credential candidates.

Elementary School Credential Candidates—Any Major

Math Ed 103A Fund Concepts of Math—Arithmetic Sci Ed 310 Elementary Experimental Science

Secondary School Credential Candidates—Science

Sci Ed 442 Teaching Science in the Secondary School Sci Ed 749 Student Teaching in Science—Secondary

Secondary School Credential Candidates-Mathematics

Math Ed 310 Problem Solving-Arithmetic

Math Ed 311 Fund Concepts of Math-Algebra

Math Ed 312 Fund Concepts of Math—Geometry

Math Ed 442 Teaching Mathematics in the Secondary School

Math Ed 749 Student Teaching in Mathematics-Secondary

ASTRONOMY COURSES

(Offered by the Department of Science and Mathematics Education and the Department of Physics)

See department listings for course descriptions of the following:

Physics 300 Introduction to Astronomy (3)

(Same as Earth Science 300)

Earth Science 350 General Astronomy (4)

(Same as Physics 350)

EARTH SCIENCE COURSES

101 Physical Geology (4)

An introduction to the physical nature of the planet earth. Course is flexible and allows the student to develop areas of interest as projects (lecture, discussion, 3 hours laboratory, 1 field trip: or the equivalent).

102 Historical Geology (4)

Prerequisite: Geology 101 or consent of instructor. The history of the earth as interpreted from rocks, structures and fossils. Consideration of the geologic time scale, ancient environments, and the development of life, with emphasis on their interdependence. Development of continents and ocean basins. (3 hours lecture, 3 hours laboratory, 1 or 2 field trips)

110 Introduction to Physical Oceanography (3)

Prerequisite: high school physics or chemistry and algebra. An introduction to the physical, chemical, and geological nature of the oceans. Does not apply as credit for majors in earth science. (3 hours lecture, 2 field trips)

300 Introduction to Astronomy (3)

(Same as Physics 300)

301, 302, 401, 402 Studies in Geoscience (2-6 units each)

Open to majors in earth science and related fields. Students may elect from two to six units per semester with approval of instructor. Guided independent study of problems in earth science. Supervision is geared to the experience and maturity of each student. Problems are designed to explore significant aspects of earth science and may be taken in any sequence. (1 hour of discussion or conference, 3 hours of laboratory, supervised study and fieldwork for each 2 units)

Areas of study that may be covered in Earth Science 301, 302, 401 and 402

include work in each of the following categories:

A. Studies in the area of geochemistry. Prerequisites: Physical geology and general chemistry. Problems in the identification and classification of rocks, minerals, soils, water types; geochemistry of crystalline solids, magmatic, marine, and meteoric liquids, and atmospheric and volcanic gases; properties, growth, symmetry, and morphology of crystals; genesis of earth materials and the interdependence of their development. Optical, chemical, X-ray, and physical experimental techniques. Field methods of collecting and evaluating data.

- B. Studies in the area of *geobiology*. Prerequisites: Historical geology and a semester of biology. Problems in the reconstruction of geologic history by evolutionary trends in fossils, by radioactive isotope determinations, by stratigraphic sequence, by relationships of sedimentary facies, by analysis of rock structures in field and laboratory. Inter-relationships of flora and fauna and the genesis of rocks, oceans, and atmosphere. Techniques for identification and classification of fossils. Preparation and interpretation of maps, diagrams, and aerial photographs.
- C. Studies in the area of geo-fluids. Prerequisite: Fundamental physics. Problems in the energy systems of oceans, atmosphere and surface and underground water and their interfaces; morphology and genesis of shorelines and seafloor; dynamics of oceans and atmosphere; physics of clouds and water vapor; classification and analysis of weather systems; composition and structure of oceans and atmosphere; evolutionary development of oceans and atmosphere. Methods and instruments.
- D. Studies in the area of geophysics. Prerequisites: Fundamental physics. Astronomy recommended. Problems in the techniques and applications of seismology to earthquakes, exploration, and the earth's interior; measurement and interpretation of gravitation, terrestrial magnetism, and terrestrial heat; extra-terrestrial radiation, plasmas, and upper-atmospheric phenomena; lunar and planetary structures, surfaces and atmospheres; hypotheses of the origins of planets, atmospheres, oceans, continents, and mountains. Geophysical instruments and methods of investigation.

The amount of study in each area will be determined by the student's interests and goals and with the approval of the student's adviser. Other areas may be selected with consent of the department.

350 General Astronomy (4)

Prerequisite or corequisite: Mathematics 150A. High school physics recommended. Methods of astronomy, celestial motion, solar system, stellar types, galactic structure, theories of origin of the universe and solar system. (Same as Physics 350) (3 hours lecture, 1 hour quiz)

499 Independent Study (1-3)

Study of some special topic in earth science, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

MATHEMATICS EDUCATION COURSES

103A,B Fundamental Concepts of Mathematics—Arithmetic (3,3) (Formerly 303A,B)

Prerequisites: one year of algebra and one year of geometry. Three years of secondary mathematics recommended. 103A is a prerequisite for 103B. The structure of the real number system and its subsystems. Numeration systems. Elementary number theory. Equations and inequalities.

310 Problem Solving: Arithmetic (3)

Prerequisite: Mathematics 291 or concurrent enrollment. Critical analysis of problem solving, proofs, and logical structure in arithmetic. Topics to be selected from new and emerging content in the mathematics curriculum in the secondary schools. Credit is not given for both Math Ed 310 and 103A or 103B.

311 Fundamental Concepts of Mathematics—Algebra (3)

Prerequisite: Math Ed 310. Selected topics in modern algebra. Axiomatic construction of algebraic structure. Linear systems of equalities and inequalities. Combinatorial analysis. Truth-functional logic.

312 Fundamental Concepts of Mathematics—Geometry (3)

Prerequisite: Math Ed 310. Selected topics in elementary geometry. The study of various axiom systems for Euclidean geometry; non-Euclidean geometry; projective, metric, and affine geometry.

442 Teaching Mathematics in the Secondary School (2)

Prerequisites: Education 311, 340, admission to teacher education, senior standing or consent of instructor, Math Ed 310, 311, and 312. Objectives, methods, and materials for teaching mathematics in secondary schools. Required, before student teaching, of students presenting majors in mathematics for the general secondary credential. The student who has not had teaching experience must register concurrently in Education 449.

480 History of Mathematics (3)

Prerequisites: senior standing with a mathematics or mathematics education major. An introduction to the history of elementary mathematics through calculus, by a problem solving approach.

499 Independent Study (1-3)

Prerequisite: consent of instructor. Study of some special topic in mathematics education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

749 Student Teaching in Mathematics in the Secondary School and Seminar (6)

See page 223 for description and prerequisites.

750 Seminar in Mathematics Education (2)

Prerequisite: graduate standing and consent of instructor. Study of selected problems in elementary or secondary education. May be repeated for credit.

NATURE INTERPRETATION COURSES

350 Field Biology and Conservation (3)

(Same as Science Education 350)

454 Seminar: Public Contact Procedures (2)

Prerequisite: public speaking or speech course, and consent of the instructor. A course to develop the methods of positive personal and group contact procedures in nature interpretation and conservation education. Students will have the opportunity to give class presentations and optional public speeches.

460 Applied Conservation (4)

Prerequisites: upper division standing with basic courses in biology; Geography 350 required of non-science majors. A survey of the history of conservation for application in teaching and nature interpretive professions.

470 Field and Museum Interpretation Techniques (3)

Prerequisites: basic courses in biology and one specialized course. Investigation and implementation of the various techniques used in the field and museum for nature interpretation. Taxidermy, herbarium displays, plastic casting, and diorama construction will be developed. Major stress will be on individual projects.

479A,B Supervised Naturalist Activities (3,3)

Prerequisites: Nature Interpretation 454, 460 and 470, or consent of the instructor. Supervised in-service training working as a naturalist at the Tucker Wildlife Sanctuary and other participating natural areas and interpretive centers.

570 Elements of Nature Interpretation (3)

Prerequisites: B.A. degree and consent of instructor. An interdisciplinary integration of biological, earth science and social science principles relevant to a naturalist training program for teachers and graduate students.

OCEANOGRAPHY COURSES

(See departmental course descriptions for the courses listed below)

Biological Science

- 325 Marine Biology (4)
- 420 General Oceanography (3)
- 421 Biological Oceanography (4)
- 426 Marine Ecology (4)
- 520 Seminar in Marine Science (3)

Earth Science

- 110 Introduction to Physical Oceanography (3)
- 401 Studies in Geoscience, Geofluids (2-6)

SCIENCE EDUCATION COURSES

100A,B,C (3,3,3)

A general education course in science in which the unifying nature of the scientific enterprise is emphasized. It is laboratory experience centered. The basic concepts and principles of the natural sciences (biological, physical, chemical and geological) are derived from laboratory experiences. Limited to students with an elementary teaching credential objective. Not appropriate for persons majoring in one of the sciences.

310 Elementary Experimental Science (3)

Prerequisite: completion of general education natural science requirements or consent of instructor. A laboratory centered course in the physical sciences appropriate for prospective elementary schoolteachers and other youth workers. The course covers primarily through laboratory investigations, selected content areas from the fields of chemistry, physics and earth science that are commonly found in elementary school science programs. The major emphasis is on development of such science skills as observing, classifying, recognizing space-time relations, measuring, inferring, formulating hypotheses, controlling variables and interpreting data. This course does not fulfill general education requirements nor is it appropriate for science majors. (2 hours lecture, 2 hours activity)

350 Field Biology and Conservation (3)

Prerequisite: one year of college science or consent of instructor. A course for nonmajors primarily designed for prospective elementary teachers to acquaint them with the plant and animal life of the region. In addition, the relationships between urban, suburban and wildlife regions will be investigated from a biological perspective.

402 Biological Preparations (2)

Prerequisite: upper division standing with a major or minor in biology. An introduction to the problems and practices of preparing materials for teaching and research in biology. May include collection and preparation of whole organism specimens, histological specimens and media for characterization of microorganisms. (Same as Bio Sci 402) (6 hours laboratory)

434 Elementary School Science-New Curricula (3)

Prerequisite: Sci Ed 310 (or equivalent) or consent of instructor. The content, philosophy and techniques of the new curricula for elementary science courses are studied. At present the course is designed to prepare teachers for the AAAS process approach to elementary science. (2 hours lecture, 2 hours activity)

442 Teaching Science in the Secondary School (2)

Prerequisites: Education 311, 340, admission to teacher education, senior standing or consent of instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 212 under Secondary Education for description of Standard Teaching Credential program. Objectives, methods, and materials including audiovisual instruction for teaching science will be studied. Developing and using lesson plans, discussions, laboratory activities, etc., will be experienced during the course. (1 hour lecture, 2 hours activity)

443 Secondary Science Education—Biology (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. Educational practices particular to the teaching of biology are studied. Special emphasis is placed on recent curricular developments in this area. Presently the course is designed to instruct teachers in the theory, content and methodology developed by the Biological Sciences Curriculum Study (BSCS). (2 hours lecture, 2 hours activity)

444 Secondary Science Education—Chemistry (3)

Prerequisite: Sci Ed 442 (or equivalent) or consent of instructor. Similar to Sci Ed 443 with the emphasis on chemistry. Presently the course is oriented around the programs developed by the Chemical Educational Materials Study (CHEMS) and the Chemical Bond Approach (CBA) to teaching chemistry. Needs of participating teachers will determine which program will be emphasized. (2 hours lecture, 2 hours activity)

446 Secondary Science Education—Earth Science (3)

Prerequisites: Sci Ed 442 (or equivalent) or consent of instructor. The content, philosophy, and techniques of teaching earth science on the secondary level are studied. This course is designed to prepare teachers in the theory, content and methodology in the earth science course developed by the Earth Science Curriculum Project (ESCP). (2 hours lecture, 2 hours activity)

461 Development of Science and Technology (3)

(Same as Technological Studies 461)

470 Evolution of Scientific Ideas (3)

Prerequisites: upper division or graduate standing with a major or minor in one of the sciences or consent of instructor. A study of how some of our currently held scientific concepts have evolved. Emphasis on the essential interrelation of the various scientific disciplines and their relation to contemporary cultural and intellectual influences.

499 Independent Study (1-3)

Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

710 Seminar in Science Education (2)

Prerequisites: an A.B. degree, teaching credential, or consent of instructor. Designed for postgraduate science students who wish to investigate recent developments in teaching the sciences. New courses and materials for the various subject matter fields will be researched and demonstrated. Areas of concentration will depend on interests and training of the seminar participants. May be repeated for credit.

749 Student Teaching in Science in the Secondary School and Seminar (6)

See pages 223-224 for description and prerequisites.

760A,B Earth Science for Secondary School Teachers (3,3)

Prerequisites: valid secondary school credential or consent of instructor. The course covers the theory, content and methodology of new Earth Science Curriculum Project (ESCP) course for secondary school earth science. The course is designed for practicing teachers of earth science. (2 hours lecture, 2 hours activity)

799 Independent Study (1-3)

Prerequisite: valid teaching credential or consent or instructor. Study of some special topic in science education, selected in consultation with the instructor and carried out under his supervision. May be repeated for credit.

DEPARTMENT OF SOCIOLOGY

FACULTY

Ernest Works

Department Chairman

John Bedell, Tony Bell, Dennis Berg, Gene Calvert, W. Garrett Capune, Carol Copp, Timothy Curry, Helaine Feingold, Perry Jacobson, Eugene Labovitz, Pat Lackey, Michael Mend, Bartolomeo Palisi, Houshang Poorkaj, Gerald Rosen, Jai Poong Ryu, J. Rex Smith, Clarence Tygart, Fred Van Noy, Mary Walshok

BACHELOR OF ARTS IN SOCIOLOGY

The major in sociology provides knowledge concerning the structure and functioning of human society. It may serve as preparation for: (1) graduate study in sociology and careers in teaching and research, (2) employment or graduate study in social work, corrections and related careers, or (3) careers in business and industry, various areas of government service, and the study of law. Sociology has applications to a wide range of careers and to participation as a citizen.

The required minimum for the major is 42 units, in addition to those taken for

the general education requirement, distributed as follows:

Thirty units must be taken in sociology, 24 in upper division courses. Sociology 201 is required, and 3 additional units are acceptable from lower division offerings. The minimum of 24 upper division units must include 331A, 331B, 481,

Minimum units 12

Minimum total units for the major 42

TEACHING MINOR IN SOCIOLOGY

For teaching credential purposes a minor consists of 21 units in sociology, distributed as follows:

2 or 411 or 413 or 431	
1 or 451	la des Nerresponsations
or 480 or 481	

MASTER OF ARTS IN SOCIOLOGY

21

The program for this degree provides advanced study in general sociology. It offers an opportunity to broaden one's knowledge of society, to strengthen skills of sociological analysis, and to do research in depth in an area of particular interest. It may be used as preparation for study toward the doctorate in sociology, for junior college teaching, participation in research, or for a variety of positions in business and industry, corrections, the community, or government.

Prerequisites

Admission to the program requires a minimum of 18 upper division units in sociology, including the following courses or their equivalents:

331A Social Research Methods (design, collecting data, etc.)

331B Social Research Methods (elementary statistics)

481 Sociological Theory

Also required is a GPA of 3.0 (B) for all work in sociology and a 2.5 average for all previous college work. Students with limited grade or course deficiencies may be considered for admission to the program upon attaining a B average in courses approved by the Graduate Coordinator.

Program of Study

	Advanced Statistical Analysis
	Advanced Methods and Measurements in Sociology
	Analysis of Sociological Theory
	Thesis
d additi	onal units of graduate work in sociology
	nay be graduate or upper division sociology or related
	gy 581 gy 598 d additi which m

To complete the requirements, the candidate must successfully defend the thesis in an oral examination by a committee.

Additional seminars, or Sociology 599, Independent Graduate Research, may be used for requirement "5", but not in lieu of the thesis. Normally the student will register for thesis two different times, for three units each semester.

For further information, consult the Department of Sociology.

See also "The Program of Master's Degrees," page 77, and the Graduate Bulletin.

SOCIOLOGY COURSES

201 Introduction to Sociology (3)

A general introduction to the basic concepts of sociology, and the scientific study of human society. Among topics included are social interaction, culture, personality, social processes, population, social class, the community, social institutions, and sociocultural change.

202 Social Problems (3)

Prerequisite: Sociology 201. Study of the extent, causes and consequences of a number of social problems, with emphasis on 20th-century America. Problems are viewed in the context of the changing society.

331A Social Research Methods (3)

Prerequisite: Sociology 201 or consent of the department. Research design and methods of gathering data, especially by interview and questionnaire, are emphasized. Among other topics are the role of theory in research, and sampling methods and problems. In addition, the student will be introduced to the techniques and equipment essential to data processing and analysis.

331B Social Research Methods (3)

Prerequisites: Sociology 201, 331A, or consent of the department. Elementary statistical analysis of social data is emphasized, with some consideration of problems of measurement and of the writing of research reports. (2 hours lecture, 2 hours activity)

341 Social Interaction (3)

Prerequisites: Sociology 201 and three units of psychology. Inquiry into the social and sociopsychological dimensions of group behavior and the socialization of the individual. Social interaction and its impact on the individual and personality formation.

Sociology

342 Methods in Experimental Social Psychology (3)

Prerequisite: Sociology 341. Designed for sociology majors who are unfamiliar with the experimental method. Focus will be on substantive sociological topics that are amenable to laboratory and field experimentation, and the design of such experiments. Special stress will be given to the theoretical integration of basic psychological and sociological principles.

345 Sociology of Communication (3)

Prerequisites: Sociology 201 and upper division standing. A study of linguistic, symbolic, kinesic and social interactional and organizational aspects of communicative systems. Special attention devoted to attitude and belief systems as influenced by direct interpersonal contact, and by printed media, television and motion pictures.

348 Collective Behavior (3)

Prerequisite: Sociology 201. Characteristics of crowds, mobs, publics. Analysis of social movements and revolutions, their relation to social unrest and their role in developing and changing social organization.

361 Population Problems (3)

Prerequisite: Sociology 201. Population composition, growth and movement. Social factors affecting birth rates, death rates, and migration. Attention is given to the population of the United States and to selected areas of the world.

362 Introduction to Formal Demography (3)

Prerequisites: Sociology 201 and 361. The demographic measures and concepts of the three basic factors of the population growth, viz., fertility, mortality, and migration will be discussed as far as it is feasible without assuming from the students the knowledge of mathematics beyond high school algebra. The range of topics will include census and vital registration, rates and ratios, measures of mortality, standardization, life tables and their construction, measures of fertility, gross and net reproduction rates, concepts of stable and stationary populations, intrinsic rates, population estimates and projections, measures of migration and the distribution of population, and the demographic measures from incomplete data.

371 Urban Sociology (3)

Prerequisite: Sociology 201. The population and ecology, patterns of growth, institutions, characteristic social interaction, values, and problems of the urban community.

411 Criminology (3)

Prerequisite: Sociology 201. The extent, causes and control of criminal behavior. Includes study of the criminal law, causal factors and theories, correctional institutions, probation and parole, and preventive efforts.

413 Juvenile Delinquency (3)

Prerequisite: Sociology 201. Juvenile delinquency as a social problem. Sociological study of the causes of delinquent behavior, and programs of control, treatment and prevention.

425 Comparative Social Change (3)

Prerequisite: Sociology 201. Comparative analysis of changing community, institutional, technological, and social class patterns in selected societies, with emphasis on differences between "developed" and developing areas.

430 Social Psychology of Prejudice (3)

Prerequisite: Sociology 201 or consent of instructor. The social psychology of intergroup prejudice. An analysis of research and theory on the dimensions, causes, consequences and reductions of intergroup prejudice.

431 Minority Group Relations (3)

Prerequisite: Sociology 201. Study of racial, national and religious minorities, especially in the United States. Includes study of discrimination, prejudice, different patterns of intergroup adjustment, and attempts to change group status.

435 Applied Research Techniques (3)

Prerequisites: Sociology 201 and 331A,B. This course provides the advanced student practical experience with the various techniques involved in social research. Students will have the opportunity to design studies, construct questionnaires, draw samples, collect data and then process and analyze their results.

436 Social Stratification (3)

Prerequisite: Sociology 201. Social class structures and their functions. Different styles of life; determinants of class status; vertical social mobility; change in class systems.

442 Small Groups (3)

Prerequisites: Sociology 341, 342, or consent of instructor. Theories, methodology, and studies in the area of small group research. Covers such topics as communication channels, coalition formation, group cohesion, leadership, and conformity in groups.

451 Sociology of the Family (3)

Prerequisite: Sociology 201. The family as a social institution. Historical and cross-cultural perspectives; social change affecting marriage and the family; analysis of American courtship and marriage patterns; the psychodynamics of family life.

454 Sociology of Aging (3)

Prerequisite: Sociology 201. Analysis of aging as a social process, with emphasis on sociological theories of aging, problems of adjustment, demographic changes and policy issues.

455 Medical Sociology (3)

Prerequisites: Sociology 201 or consent of instructor, and upper division standing. This course is designed to provide the student with a comprehensive sociological perspective for interpreting medicine and medical behavior. In a multifaceted approach, disease processes as they affect the individual and others in his environment, health practice and practitioners, health institutions and the cost and service of health services will be considered.

458 Sociology of Religion (3)

Prerequisite: Sociology 201. Theoretical analysis of religion as a social institution in complex societies. The structure and functioning of religious organizations; roles and role relationships; types of religious organizations and leadership; the relationships of religion to other social institutions; religion and social change.

460 Comparative Institutions: Latin America (3)

Prerequisite: Sociology 201. Comparative study of Latin American institutions (familial, economic, religious, political, military). Analytic emphasis on institutional structures and processes; relationship of institutions to each other and the larger society.

461 Issues in Comparative Sociology: The Family (3)

Prerequisite: Sociology 451 or consent of instructor. Concerned with the major variations in the organization of the human family; what they are, what causes them, and what difference they make; deals with the comparative study of families, both within a culture and across cultures.

Sociology

463 Political Sociology (3)

Prerequisite: Sociology 201. Theoretical perspectives; nature of power and authority; social structure and political institutions; elites and decision-making; social influences on political behavior; political movements.

464 Contemporary Social Issues (3)

Prerequisite: Sociology 201 or consent of instructor. Application of social conflict theory to the analysis of controversial social issues and contemporary revolutionary movements in the world today; including the conditions leading to the development of social protest; the ideologies, goals, strategies, and outcomes of revolutionary and reform movements.

465 Law and Society (3)

Prerequisite: Sociology 201. The law and lawyers in the context of human society. Law as formal social control, variations in legal systems, social change and selected areas of law, the legal profession.

470 Sociology of Occupations (3)

Prerequisite: Sociology 201. Sociological analysis of work roles in technologically advanced societies. Career patterns, occupational recruitment, job mobility, organizational demands. The nature and development of the professions, their ideologies and images.

471 Industrial Sociology (3)

Prerequisite: Sociology 201 or consent of instructor. The study of human relations in industry; characteristics and assumptions of modern industrial societies; social roles of workers, technicians, management, and owners; formal and informal work groups; the social organization of work and industry; industrial communities, incentives, and leadership emphasis given to both theory and research and application.

473 Complex Organizations (3)

Prerequisite: Sociology 201. Sociological analysis of formal organizations (industrial, governmental, welfare, military, medical, educational, correctional, etc.) as systems of social interaction. Includes such topics as blueprinted vs. informal structure, authority, decision-making, role conflicts, communication and morale.

477 Social Organization (3)

Prerequisites: Sociology 201; six upper division sociology units, or consent of instructor. Theories of social organization and the structure of various social groups are analyzed, with a comparative analysis of social structures and systems. The various levels of groups are discussed and interrelated.

479 Concepts and Fields of Sociology (3)

Prerequisites: Sociology 201 and nine upper division units in sociology. Analysis of theoretical and methodological problems of major sociological concepts. The use of these concepts in selected fields, and research findings, will be emphasized.

480 Analysis of Social Philosophy (3)

Prerequisite: Sociology 201. The analysis of pre-20th century explanations of man's behavior and interpretations of the human condition. Considerable attention is given to the articulation of changing historical conditions and alternative philosophies.

481 Sociological Theory (3)

Prerequisite: Sociology 201 and consent of department. A comprehensive survey of the main schools of sociological thought, both European and American, with emphasis on *systems* of theory, methodology of theorists, cultural change, and social institutions.

482 Sociology of Knowledge (3)

The analysis and study of frames of reference and beliefs systems in everyday life, and their relationship to social structure, decision processes, and social change.

495 Senior Seminar (3)

Prerequisite: senior classification. Open to sociology majors who have had the upper division coursework in the area of the seminar. Emphasis in the seminar will depend upon the particular specialty and training of the instructor.

499 Independent Study (1-3)

Prerequisites: at least 12 hours of sociology and consent of adviser. Student selects an individual research project, either library or field. There are conferences with the adviser as necessary, and the work culminates in one or more papers. May be repeated for credit.

501 Seminar: Selected Topics in Societal Structure and Process (3)

Prerequisite: consent of instructor. Analysis of a specialization within the study of society such as: socialization and personality; deviance; social change; institutional structure and process.

511 Seminar in Crime and Delinquency (3)

Prerequisite: either Sociology 411 or 413, or consent of department. Analysis of selected problems in the field of crime and delinquency with major emphasis upon independent investigation into the theoretical and research contributions on the causes, prevention and treatment of criminal and delinquent behavior.

530 Advanced Statistical Analysis (3)

Prerequisites: Sociology 331A,B or consent of instructor. Techniques most commonly utilized by sociologists but not covered in Sociology 331A,B are studied. The techniques deal primarily with multivariate analysis such as tests of significance, tests for interaction, measures of association, regression analysis and factor analysis.

531 Advanced Methods and Measurements in Sociology (3)

Prerequisites: Sociology 331A,B, or their equivalents, or consent of department. A critical analysis of basic problems of social research. Casual inferences, value bias, and measurement, especially the construction of scales.

533 Seminar in Intergroup Relations (3)

Prerequisite: Sociology 431 or consent of department. Analysis of relations among ethnic, racial and religious groups throughout the world. Analysis of processes leading to, sustaining, and associated with changes in relations among such groups.

536 Seminar in Social Stratification (3)

Prerequisite: Sociology 436 or consent of department. Analysis of stratification in industrial societies. Emphasis on theory and methods, and on international comparisons. Analysis of factors leading to social class, the persistence of class divisions, class conflict and social change, and the effects of class on behavior.

Sociology

541 Seminar in Social Interaction (3)

Prerequisite: Sociology 341 or consent of department. Advanced social-psychological study of social interaction, including sociological factors in personality development and analysis of primary group behavior.

542 Practicum in Sociological Experimentation (3)

Prerequisites: Sociology 342, 331A,B, or consent of instructor. Designed to meet needs of students who desire practical training in experimental sociology. Students in the seminar will design and conduct an experiment in all its phases, including selecting a testable hypothesis, designing the appropriate equipment, producing the data, analyzing the results, and preparing the final report.

573 Seminar in Large Organizations (3)

Prerequisite: Sociology 473 or consent of department. The analysis of large organizations, their structural and operating characteristics and the relationships between the organization and its members.

577 Seminar in Social Organization (3)

Prerequisites: Sociology 477 or its equivalent and consent of department. A critical treatment of various theoretical approaches to the analysis of social organization. Specific areas of social organization.

581 Analysis of Sociological Theory (3)

Prerequisites: Sociology 481 or equivalent and consent of department. Examination of the basic elements and key problems in constructing a systematic sociological theory. A detailed, comprehensive and critical analysis of selected theoretical works.

598 Thesis (3)

Prerequisites: acceptance as a candidate for the M.A. in Sociology, and approval of the topic. Individual research under supervision, reported in a thesis, and defended in an oral examination conducted by a faculty committee. Must be taken 2 semesters for a total of six units.

599 Independent Graduate Research (1-3)

Prerequisite: consent of graduate adviser and department. Individual research on either a library or empirical project, with conferences with the adviser as necessary, culminating in one or more papers. May be repeated for credit.

DEPARTMENT OF SPEECH COMMUNICATION

(Communicology)

FACULTY

Lee E. Granell

Department Chairman

Martin Andersen (Emeritus), Ralph Beckett, Herbert Booth, Louis Cockerham, George Enell*, Seth Fessenden, Joyce Flocken, Kaye Good, Barbara Harris, Donald Kaplan, Lucy Keele, Jerry Koehler, Emmett Long*, Bonita Miller, Max Nelson, E. Ray Nichols, Glyndon Riley, John Sattler, Philip Schreiner

Coursework in the Department of Speech Communication investigates individual and group communication as a part of the larger process of human interaction. Such investigation analyzes past theories of communication and persuasion as well as contemporary communication practices in business, politics, religion and private life. It examines the essential qualities and varieties of oral language, the physical production of speech, the nature and treatment of communication disorders, and the means used to affect social control and disseminate information.

COURSE PROGRAMS

The major in Speech for the Bachelor of Arts degree requires a total of 36 units, 24 of which must be in 300-and 400-level courses.

Course programs are planned (1) to prepare students who seek a liberal arts emphasis in speech communication as a means for becoming an intellectually independent citizen and consumer, (2) to prepare students who seek to become communication experts in business or government, (3) to prepare students who seek to apply communication skills in the ministry, law, business or other areas in which effective communication is basic, (4) to prepare students who seek either a Standard Teaching Credential or a Restricted Credential authorizing service as a speech and hearing specialist, (5) to prepare students for hospital, clinic, community center and private practice in speech pathology and audiology.

Major in Speech With Emphasis in Public Address

Lower Division Requirements:

An advanced course in oral communication: Speech Communication 102 A basic course in logic and evidence: Speech Communication 235 Up to 6 units of electives selected from Speech Communication 120, 138, 202, 211, 230

Upper Division Requirements:

A course in group process: Speech Communication 324

A course in phonetics or communication disorders: Speech Communication 341 or 342

A course in persuasion: Speech Communication 334

An advanced course in argument: Speech Communication 335

A course in communication theory: Speech Communication 420

A course in rhetorical history: Speech Communication 430 or 434

Electives in public address, adviser approved, to complete the required 36 units

Major in Speech with Emphasis in Speech Pathology—Audiology

Lower Division Requirements:

An advanced course in oral communication: Speech Communication 102 6 units of electives selected from Speech Communication 120, 138, 202, 211, 230, 235

^{*} College administrative officer.

Speech Communication

Upper Division Requirements:

A course in persuasion: Speech Communication 334

A course in phonetics: Speech Communication 341

A course in speech science: Speech Communication 340

A general course in speech correction: Speech Communication 342 An advanced course in speech pathology: Speech Communication 441

A course in audiology: Speech Communication 463

Electives in speech pathology—audiology, adviser approved, to complete the required 36 units.

STANDARD TEACHING CREDENTIAL PROGRAMS

General Elementary Credential

Lower Division Requirements:

A minimum of 9 units to include Speech Communication 102, 202, 235

Upper Division Requirements:

Speech Communication 301, 324, 334, 335, 342, 430 or 434 and 6 to 9 units of adviser approved electives.

General Secondary Credential

Lower Division Requirements:

Speech Communication 102, 138, 211 or 311, 235

Upper Division Requirements:

Speech Communication 324, 334, 335, 338, 341 or 342, 430 or 434, 442 and 6 units of adviser-approved electives.

The fifth year is required for either of the above credential programs. Speech Education 442 must be taken by the student seeking the secondary teaching credential before he can be approved for student teaching.

For a community college credential the student follows the program given for the secondary school credential. In addition, the Master of Arts degree in Speech is required.

Program Leading to the Restricted Credential Authorizing Service as a Speech and Hearing Specialist

- I. Bachelor of Arts Degree—Major in Speech with emphasis in Speech Pathology and Audiology. (See Speech Major section, above)
- II. A fifth year of specialized preparation (full-time pursuit of upper division and/or graduate course work)
- III. Preparation must include a minimum of 65 semester hours of coursework and clinical practice as follows:

Human Development and Bases for Speech, Hearing and Language, and Goals of Public Education:

A course in persuasion: Speech Cognitamication 134	Units
Speech Communication 340 Speech Science	3
Speech Communication 341 Phonetics	3
Speech Communication 403 Speech and Language Development	3
Psychology 361 Developmental Psychology (3) or	
Education 312 Human Growth and Development (3)	3
Psychology 311 Educational Psychology (3) or	
Education 411 Psychological Foundations (4)	3-4
Speech Communication 402 Phonetic Analysis of Speech (3) or	
Linguistics 406 Descriptive Linguistics (3) or	
adviser-approved related courses	3

Speech Communication

Disorders of Speech, Hearing and Language Primary Field:	Units
Speech Communication 342 Survey of Problems in Communication	3
Speech Communication 441 Speech Pathology: Non-Organic	3
Speech Communication 443 Speech Pathology: Organic	3
Speech Communication 451 Diagnostic Methods in Speech and Hearing	3
Speech Communication 452 Therapeutic Methods in Speech and Hearing	3
Speech Communication 463 Audiology	3
Speech Communication 464 Audiometry	3
Speech Communication 465 Speech Reading and Auditory Training	3
Speech Communication 557 Articulation, Voice, Stuttering, Aphasia, etc.	
(3) repeated for a total of 6 units.	6
Related Areas:	
Education 471 Exceptional Children	3
Education 452 Principles of Guidance (3) or	
Education 477 The Educationally Handicapped Child (3) or	
adviser-approved related courses	3
analyzed to discover the extent to which the noitsbusinesson to control	24
Letter from the applicant, margin objectives	36
Clinical Practice and Student Teaching in Speech and Hearing:	-
Speech Communication 458 Clinical Practice	
Speech Communication 558A Advanced Clinical Practice	2
Speech Communication 558B Advanced Clinical Practice	2
Speech Communication 459 Clinical Practice and Student Teaching in	
Speech Correction and Lip Reading	4
	di
	11

MINOR IN SPEECH

The minor for secondary teaching or junior college teaching is 22 units as follows: Speech Communication 100 (not to be included as credit for minor), 138, 102, 235, 324, 334, 342, 430 or 434 and 442.



MASTER OF ARTS IN SPEECH

This degree, with concentrations in public address or speech pathology and audiology, is a coordinated program of graduate studies to provide incentive for intellectual growth, to contribute to improvement in teaching and professional advancement, and to provide a sound basis for continued graduate study in speech. The student is expected to demonstrate a high degree of intellectual and creative competence, to evaluate critically, and to show mastery of his field of concentration.

Prerequisites

In addition to the requirements for admission to the college, admission to the program requires the following:

- Minimum of 24 semester units of upper division studies in speech communication, including adviser-approved background studies of at least 18 semester units either in or directly related to the area of emphasis.
- Grade-point average of 2.5 overall and 3.0 in the upper division work in the major.
- 3. Letters of recommendation.
- 4. Letter from the applicant, stating objectives.

Exceptions to the criteria may be considered on an individual basis.

To advance in the program, students must pass an oral qualification examination and demonstrate their effectiveness in graduate studies in the initial courses taken.

Program of Study

The degree study plan will include at least 30 units of adviser-approved graduate studies, 15 units of which must be in 500-level courses. Each program will have at least 15 units in one of the areas of concentration; a core of six units, to include Speech Communication 500, Seminar in Speech Research (taken prior to classification), and Speech Communication 597, Project, Speech Communication 598, Thesis, or Speech Communication 599, Independent Graduate Research; and six units of adviser-approved supporting courses in related fields. A written comprehensive examination is required of all candidates.

For further information, consult the Department of Speech Communication. See also "The Program of Master's Degrees," page 77, and the *Graduate Bulletin*.

SPEECH COMMUNICATION COURSES

100 Introduction to Oral Communication (3)

Investigation of the role and use of communication in modern society. Emphasis on the issues and occasions which prompt the individual to communicate orally and the ways he may evaluate those issues and prepare discourse so as to participate in meaningful dialogue regarding them. Student presentations required.

102 Advanced Oral Communication (3)

Prerequisite: Speech Communication 100 or equivalent. Intensive investigation of the role and use of oral communication in modern society. Issues and occasions which prompt the individual to communicate orally, and advanced methods for analyzing and developing oral discourse. Student presentations required:

120 Meetings and Organizations (3)

The structure of organizations and the use of oral communication in meetings: management of and participation in groups, including use of parliamentary procedure and problem-solving techniques. Student presentations required.

138 Forensics (2)

Investigation and practice in the background, format, procedures, and evaluation criteria of the various forensic events. Students must participate in at least two intercollegiate tournaments. May be repeated for credit. (More than 6 hours for each unit of credit)

202 Voice and Diction (3)

Prerequisite: Speech Communication 100. Lecture: Introductory study of voice and speech sound articulation processes and characteristics from the point of view of the speech sciences. Laboratory: Student works toward development of flexibility in his own voice and articulation patterns.

211 Introduction to Oral Interpretation (3)

(Same as Theatre 211)

230 Contemporary American Speakers (3)

Prerequisite: Speech Communication 100 or 102. Speeches of prominent figures are examined for motives, ideas, and devices for managing discourse. Content analyzed to discover the extent to which the speeches reinforce or challenge traditional values.

235 Essentials of Argumentation and Debate (3)

Prerequisite: Speech Communication 100 or 102. Investigation of the forms and skills of debate in our society. Use of evidence and case construction are emphasized. Parliamentary, symposium, and academic debate are considered.

300 Introduction to Study of Speech (3)

Prerequisite: open only to speech communication majors. Designed to orient majors to the field of speech communication. Special emphasis is on understanding and using the body of professional literature in speech communication.

Speech for Teachers (3)

Prerequisite: Speech Communication 100 or graduate standing. This course is designed to help teachers to use speech and dramatized activities effectively in the classroom. The normal speech development of children is examined, and consideration is given to the identification and handling of speech, hearing, and listening problems.

304 Listening: Message Reception and Analysis (3)

Prerequisite: Speech Communication 100 or 102. Examination of listening as a principal form in oral communication, including theory, self-development, and procedures through which competence in reception, analysis, and evaluation of messages can be improved. Attention is given to language as it affects the interpretation of messages and the relationships among individuals.

311 Oral Interpretation (3)

(Same as Theatre 311)

324 Dynamics of Small Group Discussion (3)

Prerequisite: Speech Communication 100. Study and practice of the principles of group dynamics, interpersonal communication, and the process by which individuals work effectively in the solution of problems, share ideas, and become sensitive to the environment in which they work with others.

333 Communication in Business and Industry (3)

Prerequisite: Speech Communication 100. The nature and scope of internal communications in business and industry, with a view toward management's responsibility in overcoming the barriers to effective communication. Particular emphasis is given to the interview, conference, and briefing sessions.

Speech Communication

334 Persuasive Speaking (3)

Prerequisite: Speech Communication 102 or equivalent. Investigation of the problems and techniques of a series of speeches directed toward a predetermined goal: emphasis on progressive use of persuasive materials.

335 Advanced Argumentation (3)

Prerequisite: Speech Communication 235. Argument as applied to advocacy; special attention is given to logic and evidence as related to analysis of significant issues.

338 Intercollegiate Forensics (2)

Directed activity in debate and other forensic events. Participation in intercollegiate competition is required for credit. May be repeated for credit. (More than 6 hours for each unit of credit)

340 Speech Science (3)

Prerequisite: Speech Communication 100. Anatomy and physiology of the speech mechanism with emphasis on respiration, phonation, resonance, articulation, and hearing; the physical and acoustical aspects of the speech process.

341 Introduction to Phonetics (3)

Prerequisite: Speech Communication 100 or graduate standing. The study of the history and theory of speech sounds including the morphological aspect of linguistics; the use of the International Phonetic Alphabet; the various factors influencing articulation and pronunciation. (Same as Theatre 341, Linguistics 341)

342 Survey of Problems in Communication (3)

To acquaint the undergraduate student with the subject matter and vocational opportunities, and principles of speech pathology and audiology. Covered will be the role of school personnel, classes of speech and hearing disorders, incidence, speech development and barriers to the normal acquisition of speech. Observation, lecture, films and demonstrations will be extensively utilized.

402 Phonetic Analysis of Speech (3)

Prerequisite: Speech Communication 341. Intermediate level course in phonetics which introduces student to narrow transcriptions, the electromechanical analysis of speech, and laboratory techniques in physiological phonetics. Special selected problems in the anatomy and physiology of speech as related to problems of physiological and acoustic analysis. (Same as Linguistics 402)

403 Speech and Language Development (3)

Prerequisite: Speech Communication 100 or graduate standing. Study of linguistic development and the psychological aspects of oral communication. Meets the language and speech development and disorders requirement for specialized preparation to serve as teachers of exceptional children. (Same as Linguistics 402)

404 General Semantics (3)

Prerequisite: Speech Communication 100 or graduate standing. An examination of the basic principles underlying the influence of language on human action and interaction.

420 Communication Theory (3)

Prerequisites: Speech Communication 324, graduate standing, or consent of instructor. Examination of theoretical models and systems of the communication process as they relate to various types of institutional and interpersonal communication. Emphasis on means by which the process, including discussion forms and methods, may be analyzed or measured.

430 Classical Rhetorical Theory (3)

Prerequisite: six units of upper division public address courses. Examination of contributions of Greek and Roman rhetorical theorists, and 4th century B.C. to 300 A.D., together with investigation of selected practitioners of the art.

431 European Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Review of European theorists, Cox to Whately, with special emphasis on the educational implications of each approach and the way in which each related to other academic disciplines.

432 Contemporary Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Review of contemporary rhetorical theory with emphasis on the nature of persuasion as an important goal of communication.

433 British Public Address (3)

Prerequisite: six units of upper division public address courses. A rhetorical study of the times, issues, proofs, structure, and style of selected speeches on British political, social, and religious topics.

434 American Public Address (3)

Prerequisite: six units of upper division public address courses. A rhetorical history of the United States from the colonial period to the present. The influence of selected speeches and speakers on the development of American culture.

438 Principles of Rhetorical Criticism (3)

Prerequisite: Speech Communication 430. Principles for describing, interpreting and evaluating speech, developed through analysis of contemporary forensic, deliberative and ceremonial speeches. Consideration of various critical systems. Intensive practice in writing rhetorical criticisms.

441 Speech Pathology: Nonorganic Disorders (3)

Prerequisites: Speech Communication 100 or graduate standing; Speech Communication 341 and 342. Speech pathology with special emphasis on the identification of the most commonly experienced speech problems of a nonorganic nature, such as, articulation, stuttering, voice-delayed development, areas of mental retardation, and emotional problems of children; basic principles of therapy in the clinic and in the classroom; parent conferences and referrals.

443 Speech Pathology: Organic Disorders (3)

Prerequisites: Speech Communication 340, 341, 342. Etiologies, evaluation, and treatment of speech defects of an organic nature (cleft palate, cerebral palsy, aphasia, voice, hearing, dental abnormalities and laryngectomy).

451 Diagnostic Methods in Speech and Hearing (3)

Prerequisites: Speech Communication 340, 341, 342, and 441 or consent of instructor. Provides the student with information about various diagnostic procedures that can be used by him and in consultation with members of related disciplines: psychologist, pediatrician, otologist, orthodontist, neurologist.

452 Therapeutic Procedures in Speech and Hearing (3)

Prerequisites: Speech Communication 340, 341, and 342. Observation and supervised experience in recommended procedures and use of instructional aids with speech-handicapped children, including the preparation and utilization of speech correction and speech improvement materials. (2 hours lecture, 2 hours activity)

Speech Communication

453 The Speech and Hearing Clinician as a Counselor (3)

Prerequisites: Speech Communication 342, 463, Education 452 or consent of instructor. Intended to provide background and experience in the guidance of the parents and other family members of children exhibiting communicative disorders. Also designed to help clinician cope with the guidance needs of those experiencing speech, hearing and/or language handicap. To familiarize clinicians with appropriate referral resources.

458 Clinical Practice (3)

Prerequisites: Speech Communication 340, 341, 342, 441 and concurrent enrollment in 451 or 452 and approved application prior to semester of practicum. Practice in application of remedial principles to children with speech and hearing disorders.

463 Audiology (3)

Prerequisite: consent of instructor. The nature of auditory functioning, physical and psychological. A detailed consideration of the anatomy of the auditory mechanism, pathological changes and medical treatment. A survey of the rehabilitation facilities for the aurally handicapped; e.g. agencies, hearing aids, auditory training, speech reading, language development, etc.

464 Audiometry (3)

Prerequisite: Speech Communication 342. Equipment, principles, methods and procedures used in conducting school and industrial hearing conservation programs. Attention is given to techniques of audiometric testing and the use of audiograms. Care and use of audiometers, both air-conduction and zone-conduction. Partially fulfills the state requirements for public school audiometrist.

465 Speech Reading and Auditory Training (3)

Prerequisite: Speech Communication 341 or consent of instructor. Historical background of lip-reading, methods used in the visual reading of speech, and auditory training techniques used in the rehabilitation of the aurally handicapped.

480 Rhetoric of Racial Dissent (3)

Prerequisite: sophomore standing. Examination of past and present efforts to voice dissent on racial matters. Selected messages of dissent are studied within the social and intellectual context of the day, with special concern for the strategies chosen to respond to that context and the reaction of society to those strategies.

490 Seminar: Speech and Hearing Service in the Schools (2)

Prerequisites: Concurrent registration in Speech Communication 459 and consent of the instructor. Problems and challenges unique to the student clinician in the organization and management of the speech and hearing program in the school. The course includes a study of the clinician's role, planning, scheduling, case finding, treatment program reporting and other responsibilities.

499 Independent Study (1-3)

Open to advanced students in speech with the consent of the department chairman. May be repeated for credit.

500 Seminar in Speech Research (3)

Prerequisites: graduate standing, Speech Communication 300 or equivalent. Examination of research design and methods used in historical, descriptive and experimental research in speech communication.

504 Seminar: General Semantics (3)

Prerequisite: Speech Communication 404. An in-depth study, analysis, interpretation and criticism of some of the major concepts of general semantics as a theoretical construct of the influence of language on human action and interaction and the relationship of these concepts to other fields of knowledge.

511 Graduate Seminar in Interpretation (3)

(Same as Theatre 511)

520 Seminar in Group Communication (3)

Prerequisites: Speech Communication 324 and 420. Critical analysis of significant literature and current research regarding intra- and intergroup communication.

525 Seminar in Organizational Communication (3)

Prerequisite: consent of instructor. Critical examination of significant literature and current research regarding communication systems and practices within business and industry.

535 Seminar in Advocacy (3)

Prerequisite: Speech Communication 335. Critical analysis of significant texts and periodic literature relating to argumentation and advocatory discourse.

536 Seminar in Rhetorical Theory (3)

Prerequisite: Speech Communication 430. Intensive analysis of selected rhetorical treatises chosen to represent complementary or contrasting systems of rhetoric.

538 Seminar in Rhetorical Criticism (3)

Prerequisite: Speech Communication 438. Principles for analyzing existing rhetorical critical methodologies. An investigation of the "new criticism." Methods and practice in developing a critical methodology. Intensive analysis of new forms of rhetorical criticism.

539 Special Topics in Public Address (3)

Prerequisite: consent of instructor. A critical analysis or intensive investigation of a topic selected by the students and/or instructor. May be repeated for credit.

540 Seminar in Experimental Phonetics (3)

Prerequisites: Speech Communication 341 and 402, or 341 and consent of instructor. Study and evaluation of selected major issues and problems in physiological, acoustic, and perceptual phonetics. The Speech Science Laboratory will be made available to students taking this course.

543 Seminar: Major Problems in Speech Pathology and Audiology (3)

Selected problems in speech pathology and audiology approached through an investigation of the literature and clinical research.

557A-I Seminars in Speech Pathology (3)

Prerequisites: Speech Communication 441 and 443. May be repeated for a total of 15 units, but no individual seminar may be repeated for credit: A—Cleft palate; B—Stuttering; D—Cerebral Palsy; E—Aphasoid Child; F—Voice Disorders; G—Articulation Problems; H—Mentally Retarded; I—Advanced Diagnostics.

558A,B,C Advanced Clinical Practice (2,2,2)

Prerequisites: Speech Communication 458 and approved application submitted prior to semester of practicum. Advanced clinical practice with children and adults, having communication problems encountered in professional setting such as the college clinic, public schools, hospitals, crippled children clinics, etc. Students will work with clients with disorders of voice, deafness, aphasia, dysarthria, stuttering. May be repeated for credit.

560A Seminar in Aphasia: Background (3)

Prerequisite: consent of instructor. The areas studied will be the history of aphasia from 1850–1915 (primarily academic and structural); 1917–1941 (primarily psychological and anatomical); 1941–present (eclectic). The physiology (anatomy and neurology) involved in the communicative processes and classification and theories regarding aphasia.

433

Speech Communication

560B Seminar in Aphasia: Diagnosis (3)

Prerequisite: consent of instructor. Study of the etiology of aphasia, dysarthria, apraxia. Diagnosis of communication problems arising from brain-damage. Guest lecturers in the fields of aphasia, dysarthria, apraxia, stroke research, internal medicine.

560C Seminar in Aphasia: Therapy (3)

Prerequisite: consent of instructor. Eclectic study of the approaches to therapy with brain damaged adults who have sustained a communication deficit. Introduction to the interdisciplinary involvement required to work effectively with the adult in this category. Guest lecturers will include representatives from orthopedics, counseling, rehabilitation, social services, physical therapy, occupational therapy, vocational rehabilitation.

563 Seminar in Audiology (3)

Prerequisite: Speech Communication 463, 464, or consent of instructor. Investigation into a particular area or areas of audiology with selected problems. Emphasis upon research and contributions within the framework of the seminar.

597A,B,C Project (2,2,2)

The conduct and reporting of an approved project.

598A,B,C Thesis (2,2,2)

Prerequisite: Speech Communication 500. The selection, investigation, and written presentation of a selected problem in the field of speech.

599 Independent Graduate Research (1-3)

Prerequisites: graduate standing and consent of chairman. Open to graduate students with permission of chairman of department. May be repeated for credit.

SPEECH EDUCATION COURSES

442 Teaching Speech in the Secondary School (2)

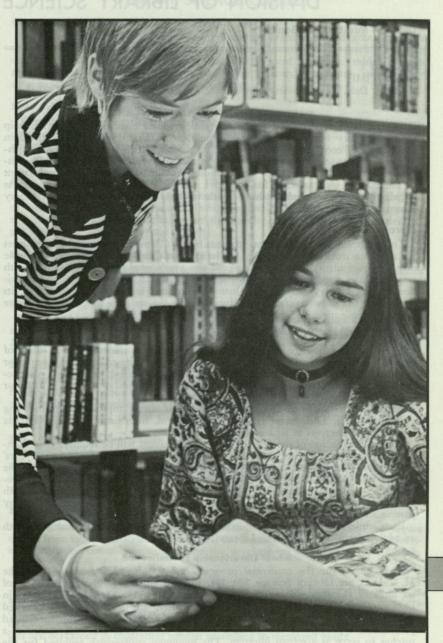
Prerequisites: Education 411, Education 340, admission to teacher education, senior standing or consent of the instructor. The student who has not had teaching experience must register concurrently in Education 449. See page 212 under Secondary Education for description of standard teaching credential program. Objectives, methods, and materials for teaching speech in secondary schools. Required, before student teaching, of students presenting majors in speech for the standard teaching credential.

459 Clinical Practice and Student Teaching in Speech Correction and Lip Reading (4)

Prerequisites: application approved prior to semester of practicum, 165 clock hours of clinical practice and graduate status. Experiences include working in small groups and in individual therapy sessions with speech and hearing handicapped children enrolled in regular school classes, participation in parent counseling conferences and conferences with school personnel including administrators, classroom teachers, and nurses. Planning of curriculum materials to integrate speech and hearing therapy with regular classroom instruction will be stressed. This meets the directed teaching requirements for the credential to teach speech and hearing handicapped in remedial classes.

749 Student Teaching in Speech in the Secondary School and Seminar (6)

See pages 223–224 for description and prerequisites.



LIBRARY SCIENCE

DIVISION OF LIBRARY SCIENCE

Director: Mrs. Doris H. Banks

FACULTY PART-TIME

Shirley Dale, David Davies, John Kountz, Michael Sadowski, Kathryn Tucker

MASTER OF SCIENCE IN LIBRARY SCIENCE

The Division of Library Science provides graduate education for librarianship with a primary focus on the basic principles of library service. The program encompasses a coordinated plan of graduate studies, which emphasizes the foundations of library science together with a specialization such as school, public, academic and special librarianship. These studies provide background for employment as librarian as well as serve for incentive for further intellectual growth and as preparation for advanced graduate work toward the doctoral degree in library science.

Prerequisites

To be admitted to the program students must: (1) meet the general prerequisites for graduate work of the college; (2) have a bachelor's degree with an academic major or equivalent; (3) have completed one year's employment in a library with responsibilities satisfactory to the advisers or successfully complete the upper division course, Library Science 400, Introduction to Bibliographic Research, or its equivalent; (4) show satisfactory performance on the aptitude test of the Graduate Record Examination; (5) satisfactorily complete an interview.

Program of Study

The Master of Science in Library Science requires a minimum of 24 units of approved graduate work in Library Science plus six units of approved work for graduate credit in an area of concentrated study and either completion and acceptance by the faculty of the Division of Library Science of a written thesis or successful performance in a comprehensive examination.

Six units of required study shall be seminars on library topics, such as Indexing and Abstracting, Theories of Bibliographic Control, Information Systems, and six

units shall be electives in an area of concentration.

Prior to completion of the degree program the student will be required to demonstrate reading capability in one foreign language, either by evidence of two years' college work in the language or by passing a reading facility examination. The student will also be expected to demonstrate proficiency in basic computer programming and applications, either by evidence of completion of a course such as Quantitative Methods 265, Computer Programming and Applications, or by passing an examination.

Each student will develop an individual program of studies in consultation with

an adviser from the Division of Library Science.

School Librarianship Specialization

The courses for the credential program and the foundation courses for the M. S. L. S. are Library Science 500, 501, 502, 503, 504, and 505. The addition of six units of electives such as Comparative Literature 314, The Oral Tradition in Literature, and English 433, Children's Literature, and 90 hours of supervised fieldwork in the school library would meet the requirements for specialized preparation applicable to the standard teaching credentials. This will authorize a teacher to serve as a school librarian. The minimum coursework required for the specialized preparation is 24 units and the minimum for the master's degree with a specialization in school librarianship is 30 units.

LIBRARY SCIENCE COURSES

400 Introduction to Bibliographic Research (3)

A study of the methods of performing literature searches for advanced research problems including bibliographic form and documentation with special emphasis on exploitation of the information in library card catalogs, trade bibliographies, index and abstract journals and other reference literature, and a study of abstracts, annotations, and critical reviewing.

500 Principles of Librarianship (3)

Consideration of libraries in contemporary society. History of libraries, development of objectives of library service, identification and definition of user communities and their needs, survey of professional associations, interrelationships within library organization.

501 Library Collection Development (3)

The principles of a library acquisitions program developed from an examination of methods of bibliographic control. Publishers and publishing and other factors of the book trade and their influence on the development of an efficient order department.

502 Organization and Operation of Libraries (3)

An introduction to administrative theories and principles and their implications and applications to managerial activities in all kinds of libraries.

503 Organization of Information for Retrieval (3)

Theory and principles of classification, indexing, subject headings and cataloging and a survey of systems for storing and retrieving information. (2 hours lecture, 2 hours activity)

504 Theories of Readers' Services (3)

A study of the history, theory, and principles of reference service and information retrieval, of national and trade bibliographical tools, and of specialized reference tools; the identification of requesters' needs, and the analysis of research techniques in special subject areas. (2 hours lecture, 2 hours activity)

505 Research in Librarianship (3)

Prerequisite: three of the 50- required courses. The scientific method and social sciences research methodology applied to library and information problems, focusing on library research and its accomplishments and evaluations of current research activities.

520 Seminar on Library Operations (3)

Prerequisite: Library Science 500 or consent of instructor. Analytical techniques drawn from systems analysis and industrial engineering applied to technical processing, circulation control, acquisitions and the development of library service models.

521 Seminar on Information Systems (3)

Prerequisite: Library Science 500 or consent of instructor. Examination of present and potential information systems in a variety of subjects as selected by members of the seminar. Business and corporate, scientific and governmental information techniques are examined in depth. Designs of local, national and international services are developed in theoretical models according to measured needs.

Library Science

522 Seminar on Current Problems in Technical Processing (3)

Prerequisite: Library Science 503 or consent of instructor. Implications of current trends in automation and cooperative systems viewed in the light of changing needs for library service and for information.

523 Seminar on Indexing and Abstracting (3)

Prerequisite: Library Science 503 or consent of instructor. Investigation of the theoretical and functional aspects of the approaches to the sources of information by individual research efforts in various fields. Current practices of commercial, governmental and society sponsored information media.

524 Seminar on Theories of Bibliographic Control (3)

Prerequisites: Library Science 503 and 504 or consent of instructor. Studies in the theoretical bases of systems for the organization and retrieval of information in all forms.

525 Seminar on Information and Instructional Materials (3)

Prerequisites: Library Science 500 and 501 or consent of instructor. Focuses on organizing and implementing media programs of wide application. Special attention to problems, organization of materials, physical environment, federal support programs and modern technology. Includes field trips to outstanding media centers in the area.

526 Seminar on Selected Topics (3)

Prerequisite: graduate standing or consent of instructor. Discussion of contemporary issues in library service such as libraries of the future, library service for the disadvantaged, intellectual freedom. Topics chosen will be described and announced to Library Science majors and in local library associations and institutions. May be repeated.

531 Data Processing for Library Applications (3)

Prerequisite: graduate standing. The devices and methods of the technology of data processing applied to particular library functions with a management system approach underlined throughout. The management and planning of automation projects is stressed.

532 History of Libraries and Information Media (3)

Prerequisite: graduate standing. Historical survey of the formation of libraries, from the beginnings in the archival collections of ancient Mesopotamia. The varieties of books, records and documents which have constituted library collections, and the varying importance of libraries in succeeding ages.

533 Non-Book Information Handling (3)

Prerequisites: Library Science 503 and 504 or consent of instructor. The selection, cataloging, retrieval and use of the many types of documents, films, recordings and other forms of printed and produced information carriers in the various library service entities. Both alphabetic and coded information sources are considered. Students have the opportunity to emphasize individual interests and needs for specialization.

536 Scientific and Technical Information (3)

Observation and evaluation of current techniques in special libraries for obtaining, announcing and distributing printed, near-print and non-printed materials. Development of a model system for improved information services.

537 Selection and Use of Materials for Children and Young Adults (3)

The examination of selection aids used to evaluate print and non-print materials, the construction of collection objectives and selection policies, and the development of programs and services for young people.

538 History of Books and Printing (3)

Prerequisite: graduate standing. An historical survey of the various materials, devices and machines used for written communication. Some note is taken of picture writing and mnemonic devices used by the Indians of North America. In Europe and Asia the use of clay tablets in the Mesopotamian area is taken as a starting point. The wax tablets, leather and papyrus books and metal plates used in the Near East and the Classical world are considered, and the production of manuscripts in medieval Europe. The development of printing in China and Europe is traced up to and including phototypsetting and photo-offset printing.

137 Selection and the ef-Materials for Children and Young Adulta (Shirnes and The examination of selection aid, used, to eveluate print materials, the constituction of collection objectives and selection programs and services for young peopless but solvers and services for young peopless.

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523 Suminer on Information and Instructional Meterials. (8)

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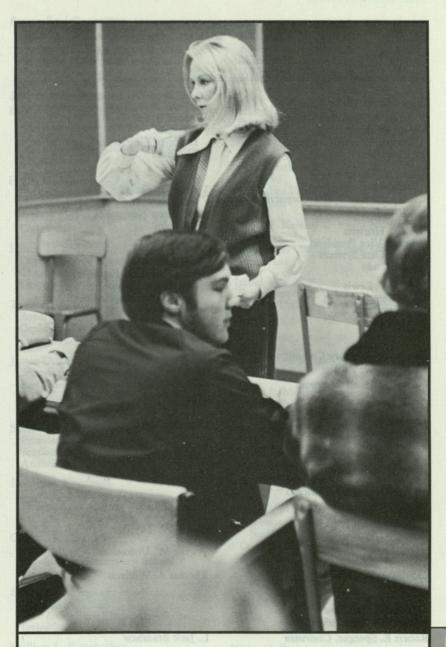
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233 Non-Back Information Handling (3)

Prerequisites: Library Science 501 and 106 or consept of instructor. The selection exploging, received and use of the many types of documents, films, recording and other forms of printed and gendanced information carriers in the vertices library service perities. Both alphabetic and coded information sources are considered. Studietics have the opportunity to emphasize individual interests and needs for specialization.

\$35 departite and Turbaled Information (5)

Conservation and evaluation of current techniques in special intraries for obtaining, amounting and distributing printed, near-print and non-printed insterials. Development of a model system for insproved information services.



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CALIFORNIA STATE COLLEGE, FULLERTON

FACULTY AND ADMINISTRATION 1970-71

(Year in parentheses indicates date of appointment as a full-time member of the faculty)

ABBOTT, ROBERT D. (1970), Assistant Professor of Psychology B.A., California Western University; M.S., Ph.D., University of Washington

ADAMS, PHILLIP A. (1963), Associate Professor of Biology B.S., University of California, Berkeley; M.A., Ph.D., Harvard University

ADAMS, RAYMOND V. (1960), Professor of Physics B.S., Kansas State University; Ph.D., California Institute of Technology

*AHN, SEUNG CHUL (1969), Assistant Professor of Economics B.A., Seoul National University; Ph.D., University of California, Berkeley

ALAMSHAH, WILLIAM H. (1960), Professor of Philosophy M.A., Claremont Graduate School; Ph.D., University of Southern California

ALEXANDER, JAMES P. (1960), Professor of Communications B.A., M.S., University of Southern California; Ed.D., University of California, Los Angeles

ALLEN, HOLLIS P. (1960), Professor of Education, Emeritus
B.A., Pomona College; M.A., Ed.D., Stanford University; LL.D., Claremont Graduate School ALLEN, TERI A. (1970), Assistant Professor of Theatre B.A., M.A., University of Iowa

ALNE, ARTHUR E. (1969), Medical Officer B.A., M.D., University of Oregon

AMES, DENNIS B. (1960), Professor of Mathematics and Chairman, Mathematics Department B.A., M.A., Bishop's University; Ph.D., Yale University

ANDERSEN, LINDA R. (1970), Assistant Professor of French B.A., Kalamazoo College; M.A., University of California, Los Angeles

ANDERSEN, MARTIN P. (1965), Professor of Speech Communication, Emeritus B.A., M.A., Ph.D., University of Wisconsin

ARANA, OSWALDO (1965), Professor of Spanish B.A., Texas Christian University; M.A., Ph.D., University of Colorado

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BAILEY, DAVID T. (1969), Assistant Professor of Chemistry B.A., University of Colorado; Ph.D., Iowa State University

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BALDWIN. SIDNEY (1967), Professor of Political Science B.A., Wesleyan University; M.P.A., Ph.D., Syracuse University

BANKS, DORIS H. (1967), Director and Professor of Library Science B.S., New York State Teachers College; M.S.L.S., Syracuse University; M.P.A., University of Southern California

BARISH, NATALIE (1966), Professor of Biology A.B., Goucher College; M.A., Indiana University; Ph.D., Ohio State University

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BECK, WARREN A. (1961), Professor of History B.A., M.A., Wayne University; Ph.D., Ohio State University

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On leave 1970-71 On leave fall 1970 Deceased April 1971

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BURKE, MAX W. (1960), Director of Placement Services and Professor B.A., University of Iowa; B.D., Colgate-Rochester Divinity School

BUSBY, WILLIAM T. (1967), Assistant Professor of Quantitative Methods B.B.A., University of Wisconsin; M.S., D.B.A., University of Southern California

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CABANEL-EVANS, HILDA P. (1967), Instructor in English Licenciatura, Universida de los Andes, Bogota

CAINE, JOHN E. (1968), Associate Professor of Physical Education and Director of Athletics B.S., M.S., University of California, Los Angeles; Ed.D., Colorado State College

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CARPENTER, DWIGHT M. (1969), Associate Professor of Political Science B.A., M.A., University of Wichita; Ph.D., University of Illinois CARR, EDWIN R. (1960), Professor of Education and Economics B.A., Jamestown College; M.A., Columbia University; Ph.D., University of Minnesota

CARTLEDGE, SAMUEL J. (1966), Assistant Professor of French A.B., King College; Ph.D., Yale University

CASTELLANOS, GLORIA G. (1970), Lecturer in Mathematics Education
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CATANZARO, JAMES L (1970), Associate Dean of Students and Director of Judicial Affairs and Special Projects B.A., Barrington College; B.D., Talbot Theological Seminary; and Ph.D., Claremont Graduate School

CAYTON, JOHN MICHAEL (1968), Assistant Professor of Economics B.A., Stanford University

CHADWICK, CAROLE S. (1967), Assistant Professor of Music B.A., University of Delaware; M.A., Columbia University Teachers College

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COLGAN, FRED R. (1965), Associate Professor of Management B.S., M.S., Ph.D., University of Southern California

^{*} On leave 1970-71

COLLEA, FRANCIS P. (1970), Assistant Professor of Science Education B.M., New York Maritime College; M.S., Ph.D., Syracuse University

COLMAN, RONALD W. (1964), Associate Professor of Quantitative Methods B.A., University of California, Los Angeles

CONDON, MARY GARDNER (1969), Placement Supervisor

B.S., Iowa State University

COOPER, JOHN D. (1970), Assistant Professor of Earth Science B.S., University of Michigan; M.A., Ph.D., The University of Texas

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INDEX

The second secon	Contente asserting a Tagasta and consensual
Academic Affairs Cabinet, 21	Auditors, 63
Academic advisement, 85	Fee 65,
Academic disqualification, 70	Registration of, 63
Academic planning, 35	Auxiliary organizations, 448
Academic probation, 70	Rachelor's Degree 74
Academic programs, 31	Bachelor's Degree, 74 Degrees offered, 91
Academic Standards Committee, 23	General requirements, 74
Accounting courses, 153	Graduation requirements, 76
Accreditation, 31	Second baccalaureate degree, 75
ACT tests, 59	Behavioral Sciences in Education, 174 Educable mentally retarded, 177
Administration, 455	Master of Science degree, 180
College, 17	Pupil personnel services, 175, 179
Departments, 18 Directory of faculty, 456	Special Education, 180
and schools, 18	Speech and hearing specialist, 178 Trainable mentally retarded, 178 Biological Science, 284
Administration and Supervision Credential, 201	Piological Science 284
Admission, 51	Bachelor of Arts degree, 284
Academic probation, 70	Master of Arts degree, 285
Application for, 56	Minor, 285 Biology (see Biological Science), 284
Application for, 56 Cancellation of, 58	Biology (see Biological Science), 284
Common admission, 52	Bookstore, 40
Credential programs, 58 Foreign students, 55	Business Administration, 141 Bachelor of Arts degree, 143
Freshman, 52	School of, 141
Graduate students, 55	School of, 141 Master of Business Administration, 147
Health requiremnts for, 59	Business Education, 146
High School students, 54	Calendar, 8
Honors at entrance, 58	California State Colleges, 14
Intrasystem transfer, 54 Nonresidents 58, 64	Campus Planning Committee, 21
Probation, 56	Centers, research, 36
Procedures, 56	Challenge examination, 61 Chancellor's Office, 13
Readmission, 55	Change of program, 63
Residence statement, 58	Fee, 65
Summer session students, 32, 55 Undergraduate entrance testing, 59	Chemistry, 296
Undergraduate transfers, 54	Bachelor of Arts degree, 296
Advanced Placement, 61	Master of Arts degree, 299
Advisement, Academic, 85	Minor, 298 Chicano Studies department, 252
Advisory Board, 16	(see Ethnic Studies), 247
Advisory Committee on Radiological	Choice of catalog regulations for meeting
Safety, 442	degree requirements, 69
Advisory councils, 442	Classification in college, 66
Afro-Ethnic Studies department, 248	College administration, 17 College committees, 20
(see Ethnic Studies), 247	College curricula, 91
Afro-American studies option, 248	College level examination program, 61
Alumni Association, 50, 448 American studies, 274	College Union fee, 64 Committees of the Faculty Council, 20
Bachelor of Arts degree, 274	Committees of the Faculty Council, 20
Announcements of courses, 91	Communications, 306
Anthropology, 276	Bachelor of Arts degree, 306 Master of Arts degree, 309
Anthropology, 276 Bachelor of Arts degree, 276 Master of Arts degree, 277	Minor, 500
Master of Arts degree, 277	Teacher credential requirements, 309
Minor, 276	Community college teacher education, 214
Application, 56	Comparative literature, 316
Admission, 51 Fee, 64	Bachelor of Arts degree, 316 Master of Arts degree, 316
Art, 100	Computer Center, 35
Art Alliance, 448	Computer Advisory Committee on Academic
Bachelor of Arts degree, 100	Affairs, 442
Education courses, 114	Computer Advisory Committee on Adminis-
Master of Arts degree, 103	trative Affairs, 442 Computing facilities and institutional
Minor, 103 Arts, School of, 99	research, 23
Associated Students fee, 64	Concurrent enrollment, 63
Associated Students ree, 64 Associated Students officers, 25	Conduct, student, 71
Astronomy courses 384, 412	Conferences and institutes, 33
Athletics, 43	Correspondance courses, 60
Student-faculty board, 21	Counseling services, 41, 179
Audiovisual Center (see Instructional Media	Course numbering codes, 96
Center), 35	Credential programs, 58

Evening classes (see Schedule of Classes), 31 Examinations, 68 College level program, 61 Credit, 60 Acceptance of, 60 Advanced placement, 61 By examination, 61 Challenge examination, 61 Challenge, 61 Entrance, 59 Entrance, 59
Final, 68
GRE (Graduate Record Examination), 80 College level examination, 61 Correspondence course, 60 Expenses (see Fees), 64 Extension program, 32 Credit, 33 Extension course, 60 Military service, 60 Transfer, 60
Unit of, 66
Curricula, college, 92
Curriculum Committee, 23 Credit, 35 Fee, 65 Faculty, 455 Affairs committee, 23 Council members, 20 Council standing committees, 23 Directory, 455 Dance, 115
Bachelor of Arts degree in Drama, 133 115 Directory, 455 Personnel committee, 23 (with emphasis in dance) Dean's List, 70 Degrees offered (see College Curricula), 92 Federal insured loan, 47 Dental technician, 88 Dentistry (see Predental), 89 Discipline (see Student conduct), 71 Fees, 64 Associated Students, 64
Auditors, 65
College Union, 64
College Union, 64 Disqualification, Academic, 56 Drama, 131 Bachelor of Arts degree, 131 Education courses, 140 Master of Arts degree, 134 Minor, 134 Extension, 65
Foreign students, nonresident, 64 Late registration, 65 Limited student, 64 Earth Science, 409
Bachelor of Arts degree, 409
Department (see Science and Mathematics
Education), 409 nonresident tuition, 64 Parking, 65 Refund, 65 Registration, 62, 64 Minor, 411 Economic Education Center, 37 Regular student, 64 Summer session, 65 Economic Education Center, 3. Economics, 150 Bachelor of Arts degree, 150 Master of Arts degree, 151 Minor, 151 Educable mentally retarded, 177 Transcript, 65 Finance courses, 160 Financial aids, 46 Fiscal Affairs Committee, 24 Foreign Languages and Literatures, 330 Education, 173

Behavioral Sciences in Education, 174

Health Education, Physical Education
and Recreation, 187 Bachelor of Arts degree, 330 Credential programs, 330 Education courses, 332 Language laboratory, 331 Majors, 330
Master of Arts degree, 331
Minor, 330 School Administration and Social Foundations, 199 Teacher Education, 205 Educational development and innovation, 23 Educational Services Committee, 23 Foreign students, 48, 55 Foundation, 25
Board of Trustees, 25
California State College, Fullerton, 39 Educational Opportunity Grants, 48 Elections Committee, 23 Elections Committee, 23
Elementary Education
Credential program, 209
Engineering, 225
Advisory Council, 442
Bachelor of Science degree, 226
Master of Science degree, 230
School of, 225
English, 322
Bachelor of Arts degree, 322
Education courses, 329
Master of Arts degree, 323
Minor, 323 Fraternities (see Student organizations), 43 French, 332 Bachelor of Arts degree, 330 Master of Arts degree, 331 Friends of the College, 449 General education (see Graduation requirements), 74
Geography, 345
Bachelor of Arts degree, 345
Master of Arts degree, 346
Minor, teaching, 345 Minor, 323 Enrollment, 66 Geology courses, 412 Concurrent, 63 Definitions, 66 German, 336 Bachelor of Arts degree, 330 Regulations, 66 Entrance examinations, 59 Master of Arts degree, 331 Good standing, 69 Ethnic Studies programs, 247 Afro-American studies option, 248 Government Studies Center, 38 Mexican-American option, 252 Grade Point averages, 68 Evaluations, 60 Grade reports, 68 Acceptance of credit, 60 Grading System, 67 Credit/No Credit, 67 Advanced placement credit, 61 Challenge examination credit, 61 Graduate Council, 21 Graduate Studies 700, 69 College level examination program, 61 Correspondence course credit, 60 Graduate Study Credit by examination, 61 Extension course credit, 60 Admission from nonaccredited schools, 78 General policy, 60
Military service credit, 60
Transfer credits, 60 Applicable catalog and graduate bulletin regulations, 77 regulations, Assistantships, 82

Candidacy, advancement to, 78
Changes in the study plan, 81
Classified status, 55, 78
Courses not applicable to, 80
Coursework limitation prior to classified status, 80
Paclassification 21 Declassification, 81 Fellowships and financial aids, 82 Fellowships and financial aids, 82
Full-time load, maximum, 82
Full-time load, minimum, 81
General requirements for Master's degree, 77
Grade Point average standards, 79
Grades, CR, S or P, 80
Graduate credit for seniors, 83
GRE tests, 80
Inapplicable courses, 80
International study, 83
Limitation on preclassification coursework, 80
Maximum full-time load, 82
Minimum full-time load, 81
Policies and procedures, 77
Postgraduate credit for seniors, 83
Projects and thesis, 82
Requirements for Master's degree, 77
Second Master's degree, 83 Requirements for Master's degree, 77
Second Master's degree, 83
Standards for, 77
Steps in the Master's degree program, 77
Study plan changes, 81
Tests required, 80
Thesis and projects, 82
Graduation requirement check, 76
Graduation requirements, bachelor's degree, 76
GRE tests, 80 Health, 187
Center Advisory Council, 444
Education courses, 191
Requirements, 187 Services, 45 Hebrew courses, 338 History, 351 Bachelor of Arts degree, 351 College, 26 Master of Arts, degree, 351 Minor, teaching, 351
Honors, 58, 70
At entrance, 58
Dean's List, 70
At graduation, 70
Housing, 45 Housing, 45 Incomplete work, 67 Independent study, 97 Institutes, 33 Institutes, 33
Instructional Media Center, 35
Interdisciplinary Center, 260
Intern-teaching and Master's degree, 48
International education, 24, 48
International programs, 33, 331
International study courses, 83, 97
Internship in school administration, 200
Intramural Activities, 43
Italian courses, 339 Italian courses, 339 Journalism (see Communications), 306 Journalism education courses, 315 Judicial affairs, 50 Language laboratory, 331 Late afternoon classes (see Schedule of Classes), 31 Late registration, 63 Fee, 64 Latin courses, 339 Latin American studies, 263 Bachelor of Arts degree, 263
Leave of Absence, 69
Lecture series board, student-faculty, 22
Letters, Arts and Sciences, School of, 273
Library, college, 34
Library Committee, 24

Library Science, Division of, 435 Master of Science degree, 436 Linguistics, 361 Bachelor of Arts degree, 361 Laboratory for Phonetic Research, 365 Master of Arts degree, 362 Loans, 47 Major requirements, 74 Management courses, 16 162 Management courses, 162
Marketing courses, 166
Master's degree, 77
Degrees offered, 92
Requirements, 77
Second Master's degree, 83
Steps in the Master's degree program, 77
Mathematics, 369
Bachelor of Arts degree, 369
Education courses, 414
Master of Arts degree, 371
Minor in mathematics, 371 Minor in mathematics, 371 Minor in mathematics teacher Minor in mathematics teacher education, 371
Option for applied mathematics, 370
Option for teacher education, 370
Medical biology, 89
Medicial technology, 90
Medicine (see Premedical), 89
Mentally Retarded, 176
Mexican-American studies option, 252
Minor, 76
Multiple Baccalaureates, 75
Multiple maiors, 75 Multiple Baccalaureates, 75
Music, 117
Bachelor of Arts degree, 120
Bachelor of Music degree, 121
Education courses, 130
Master of Arts degree, 121
Minor, 121
Music Associates, 449
Requirements of department, 118 Music Associates, 449 National defense student loans, 47 Natural and cultural ecology, 27 Nature interpretation, 411 Courses, 415 Department (see Science and Mathematics Education), 409 New Educational Horizons, 49 Numbering code for courses, 96 Nursing, 88 Objectives of the college, 26 Occupational therapy, 88 Oceanography courses, 415 Optometry, 88 Orientation, 62 Paramedical health sciences, 88 Parking fees, 65 Patrons of library, 450 Personnel Committee, 23 Petition, right of, 71
Philosophy, 377
Bachelor of Arts degree, 377
College (objectives), 26
Minor, 377 Phonetic Research Laboratory, 38, 365 Physical Education, 192 Master of Science degree, 187 Master of Science degree, 190 Minor, 188 Physical science courses, 305, 384 Physical therapy, 88 Physics, 381 Bachelor of Arts degree, 381 Graduate work, 383 Minor, 382

Placement services, 49
Part-time placement, 49
Business, industry and government placement, 50
Educational placement, 50
Podiatry, 88
Political Science, 389
Bachelor of Arts degree, 389
Master of Public Administration, 390
Minor, teaching, 389
Portuguese courses, 339
Predental committee, 89
Prelegal preparation, 89
Premedical committee, 89, 443
Premedical preparation, 89
Preprofessional programs, 88
Prerequisites, 97
President's Cabinet, 20
Probation, 70
Academic, 70
Admission in, 56
Disciplinary, 56
Psychology, 399
Bachelor of Arts degree, 399
Master of Arts degree, 399
Public Administration Master's degree, 390
Publications Board, student-faculty, 22
Public Events Board, 21
Pupil Personnel Services, 169

Radiological Safety Advisory Committee, 442 Reading center, 38 Reading curriculum, 217 Readmission of former students, 55 Real Estate Research Institute, 37 Recreation courses, 198 Refund of fees, 65 Registration, 62 Auditors, 63 Change of program, 63 Computerized records system, 62 Concurrent enrollment, 63 Fee, 64 Handicapped students, 63 Late registration, 63 Orientation, 62 Relations with schools, 41 Religious Studies, 405 Bachelor of Arts degree, 405 Repetition of courses, 68 Research centers and clinics, 36 Research Center of Business, Economics, and Community, 37 Research Committee, 24 Reserve Officers' Training Corps, 64 Residence, 45 Continuous, 69 Statement of, 58 Right of Petition, 71 Right of Academic Appeal, 72 R.O.T.C., 64 Russian area studies, 266 Russian courses, 340 SAT tests, 59

Schedule of classes, 31 Scholarships, 46 Scholarship for graduation, 75 School, 173 Counseling, 41, 179 Psychology, 180 Psychometry, 180 School administration, 200 Advisory Council, 443 Program, 201 School administration and social foundations, 199
Internship in school administration, 200
Master of Science degree, 199 Schools and Departments, 18 Science Education, 409 and Mathematics Education department, 409 Science education courses, 416 Second baccalaureate degrees, 76 Secondary education program, 212 Selective Service, 64 Social Science Master of Arts degree, 268 Social Welfare, 90 Sociology, 418
Bachelor of Arts degree, 418
Master of Arts degree, 418
Minor, teaching, 418 Sororities (see Student organizations), 43 Spanish, 342 Bachelor of Arts degree, 330 Master of Arts degree, 331 Special education, 39, 434 Speech, 425 and Hearing Clinic, 39 and hearing credential, 426 Speech Communication, 425 Bachelor of Arts degree, 4 Credential programs, 426 425 Education courses, 434 Master of Arts degree, 428 Minor, 427 Sports (see Student athletic), 43 Staff Council, 20 State Colleges, 14 Student, 42 Activities, 42 Advocates, 44 Affairs committee, 24 Athletics, 43 Birth control information services, 43 Child Care Center, 44 College Recreation Association, 43 Communication skills, 68 Conduct, 71
Campuswide events, 44
Draft advisement and information, 43 Draft advisement and information, 43
Experimental College, 44
Extramural activities, 43
—faculty athletics board, 21
—faculty lecture series committee, 20
—faculty publications board, 22
—faculty public events board, 21
Government, 42
Health Center Advisory Council, 444 Health Center Advisory Council, 444 Health services, 45 Honors, 70 Housing, 45 Insurance, 46 Intramural activities, 43 Legal information and referral, 44 Mutual ticket agency, 44 News Bureau, 44 Organizations, 43 Personnel services, 21 Publications, 43 Residence Center, 45 Teaching, 207 to-student tutorials, 98 Study list limits, 208 Summer sessions, 32 Admission, 32 Fee, 65 Swahili courses, 344

Teacher education, 205 acher education, 205
Admission, 206
Advisory Council, 445
Community college, 214
Elementary, 209
Master of Science, 215
Personnel services for, 206
Reading, 216
Secondary, 212 Secondary, 212 Teaching credential statutory

requirements, 209 Technical Communications Advisory

Council, 446 Technological Studies Institute, 38 Technological Studies Program, 270 Television Center, 35 Testing services, 42 Theatre (see Drama), 131 Titan Touchdown Club, 451 Trainable mentally retarded, 176 Transcripts, 69 Evaluation, 64

Fee, 65 Trustees of the California State Colleges, 11 Tucker Wildlife Sanctuary, 139 Tucker Wildlife Society, 451

Tuition Fee, 64 Nonresident, 64 Nonresident Foreign student, 64 Tutorials, Student-to-Student, 98

U.S., History and Constitution State and local requiements, 74 Undergraduate Admission, 51 Degrees offered, 92

Enrollment in graduate level courses, 66 Testing, 58 Transfers, 54

United Student Aid Funds, 49 Units, 75 of credit, 75 for graduation, 75
Resident, 75
Urban Advisory Council, 447

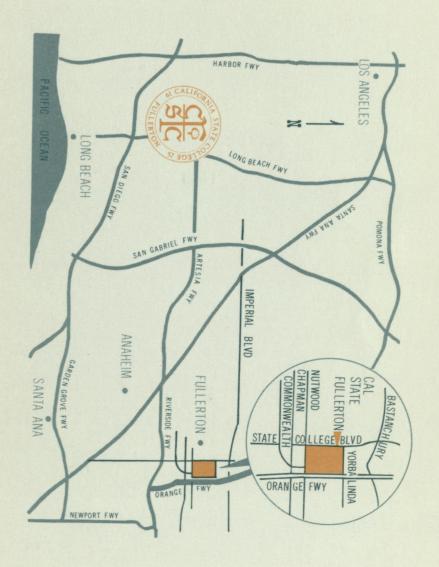
Urban studies, joint institute, 38

Veterans, 63 Vocational Rehabilitation Center, 45

Withdrawal, 70 From college, 70 Grades for, 70 Work-Study Program, 48



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